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9 July 1984

USSR Report

AGRICULTURE

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9 July 1984

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AGRICULTURE

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MAJOR CROP PROGRESS AND WEATHER REPORTING

LABOR SUPPORT FOR FIELD WORK IN RSFSR

Moscow SOVETSKAYA ROSSIYA in Russian 6 Mar 84 p 1

[Article: "The Sowing Arsenal of the Farmer"]

[Text] Village workers are always concerned about the harvest, but today the concern is urgent and immediate. On the eve of spring sowing farmers weigh the possibilities for increasing the harvest and consider all of the reserves that would enable them to complete field work in an optimal period and with good quality. On this depends the solution to the great task which was clearly reflected at the February Plenum of the CPSU Central Committee and in the speeches of party and government administrators during the pre-election campaign--to secure positive changes in the development of the country's agro-industrial complex and to take a new step forward in the implementation of the Food Program.

Taking this into account, kolkhoz and sovkhoz sowing plans foresee, in addition to common agronomic measures, others which are directed at the extensive use of positive experience, progressive technology and scientific recommendations.

Special attention is paid to the use of technical potential. This is understandable: machines signify labor productivity and the schedule and quality of work are key factors in the struggle for the harvest.

Russian farmers have accumulated considerable experience in the effective use of technology. The extensive use of collective contracts, especially last year, enriched this existing experience. Links and brigades working according to the unregulated system, achieve a great return from machines and under the same conditions usually produce 20-30 percent more than others per unit area. They save time during sowing and all spring operations by means of organization, discipline and a clear allocation of responsibility. A main role is played here by private interest in the end results. This spring thousands of unregulated collectives will move out into the fields in Luban, Stavropol and Rostov oblasts, the Altay and the rayons of the Transvolga. Numerous facts speak eloquently about the great reserves that are being found in the use of the new form of organizing and reimbursing labor. In Glazunovskiy Rayon, Orlov Oblast, where in recent years more attention has been given to using cost accounting and collective contracts, all plowland is cultivated by contract links with reimbursement for the final products. With the intro-

duction of this method, as was recently noted in a resolution of the CPSU Central Committee and passed in this region, work was strengthened to assimilate a scientifically-based system of farming, the use of machines improved, the acquisition of technology was organized and enterprises turned away from recruiting machine operators from elsewhere.

Many RAPO [Rayon agricultural industrial association] councils took upon themselves the great task of preparing technology for spring, as stipulated. In Saratov Oblast rayon agro-industrial associations are realizing full control over preparations for spring sowing. Here all equipment has been repaired and the quality of repairs has been checked. An entire group of enterprises in which collective contracts were still being poorly adopted is now organizing its own links and brigades.

This means that a great deal depends on how organized the utilization of positive experience is. If it is applied with a consideration of specific conditions and creatively and not mechanically and according to a pattern then good results will be achieved without doubt.

These questions require the especially intent attention of party organizations in the village. It is no secret that sometimes matters suffice not because the economic manager does not know what to do but because he is not used to burdening himself with additional concern and because he gravitates toward the inertia of old work methods. "For party committees," said the General Secretary of the CPSU Central Committee, K. U. Chernenko, "being involved in management means being involved first with the people who are leading the enterprise." This is why now it is very important to understand why some managers tolerate a low pace of technology repairs and an undersupply of trained cadres of machine operators in links and detachments, why the entire complex of operations related to preparations for sowing is not completed with the necessary sense of responsibility and how to explain mismanagement and tolerance of shortcomings in some places. Thousands of power tractors are still in a state of disrepair in the kolkhozes and sovkhozes of Russia. Especially many were not repaired in Kuybyshev and Chita oblasts. It is simpler to prepare sowing and soil-cultivating machines and equipment than tractors. Any repairs can be made in kolkhoz or sovkhoz shops. Still, the enterprises of several oblasts have a great deal of trailer equipment in disrepair.

The main reason for the slow pace of preparations of equipment in a number of regions, as noted recently by the board of the RSFSR Agricultural Ministry, is the poor organization of repair work. It should be added that order in the use of work time has not been instituted everywhere. Many violations of labor discipline are tolerated. The deficit in spare parts is experienced not only because of delays in deliveries but also because of a poor accounting of parts and a careless attitude toward their use.

Naturally, all of this affects the quality of repairs. If it were to happen that all sowing units that are said to be prepared in the enterprises of Novgorod and Lipetsk oblasts went out into the fields tomorrow, every fifth cultivation and sowing machine would become idle within the first hour. This degree of defective parts was discovered by workers of RSFSR Gossel'tekhnadzor

[State inspectorate for the surveillance of the technical condition of the machine and tractor fleet of the RSFSR Agricultural Ministry]. During the last 1-1.5 months the situation has been corrected in some places, but mainly in enterprises visited by committees. But how many haven't they visited yet! This is why there should be another examination of the quality of technical repairs, recruiting deputy posts, people's inspectors, komsomol "searchlight operators," and leading machine operators for control work.

This year the unregulated brigade system will become even more widespread. The number of links and brigades taking on collective contracts is growing rapidly. But it is important to see what qualitative changes are brought about beyond the quantitative. Responsibility for the final results and the harvest are the main goal. Some links, as it recently became clear, omit this from the final agreement. This happens in places where contracts are developed on a formal basis and where supplies of machines and cadres do not meet work volume. In those places where everything has been thought out carefully the results are completely different. In the Dubovovrazhnyy Sovkhoz of Volgograd Oblast each spring mechanized links perform field work on a 24-hour basis. They have technological maps and clear and specific tasks. Having introduced enlarged crop rotations the machine operators of the enterprise significantly increased the effectiveness of machines utilized.

About 3 million hectares have been allocated in Russia for the cultivation of potatoes, corn for grain, sugar beets, vegetables, soybeans, sunflowers and other crops according to industrial technology. Industrial technology—the name tells us that manual labor is being eliminated here and that everything has been placed on the shoulders of machines. This means that beginning with sowing the technology on such fields must work especially dependably and highly productively. However, many enterprises have not achieved this although this is not the first year that progressive technology is being introduced. One of the brigades of the Dzhalka Sovkhoz of Shalinskiy Rayon, Chechen-Ingush ASSR, utilizing it to cultivate corn, produced a very small harvest last year. Moreover, labor expenditures and the cost of grain were very high. There was one basic reason for this—a careless utilization of technology: soil was poorly prepared and sowing was completed in one way or another.

Similar instances speak of the fact that success will not simply come to those who adapt progressive experience and labor methods. Success is achieved by people—their skill, persistence, high degree of organization and discipline are needed. Many enterprises, taking this into account, are strengthening their links, brigades and detachments, which will lay the foundation for the harvest, with specialists. Additional party groups are being created for the period of spring work and posts of people's control are being organized. The deputies of local soviets have determined their role in this great work. They are taking charge of the main problems related to the coming sowing period. Special attention is given to reserves for increasing the use of land and technology and for increasing the training of cadres of machine operators as well as to beginning competition for the highest end results.

Unfortunately, there are still many problems in this area. Rayon and oblast agro-industrial associations are called upon to create an atmosphere of

intolerance toward any exhibition of irresponsibility and slackness and to decisively strive to eliminate shortcomings.

The first year of the implementation of the Food Program showed what great reserves could be brought to action. Gross production output has increased in the country. More grain, potatoes, sugar beets and flax have been harvested; an adequate harvest of vegetables was produced. However, not all that was planned could be implemented. Some oblasts, krais and autonomous republics of the RSFSR must make up for undersupplying the state with products during the first 2 years of the five-year plan. There was an especially great undersupplying of grain. This is why measures are essential that will guarantee the production of planned harvests for all crops and the fulfillment of plans to procure grain and other products.

The successful completion of spring sowing is one of these guarantees.

8228

CSO: 1824/360

MAJOR CROP PROGRESS AND WEATHER REPORTING

STATUS OF SPRING FIELD WORK REVIEWED

Kiev SIL'S'KI VISTI in Ukrainian 7 Apr 84 p 1

[Article, published under the heading "Agricultural Review": "Shock-Work Pace and High Quality in Spring Planting"; passages enclosed in slantlines printed in boldface]

[Text] Within the aggregate of field work, great importance is attached to /care of winter crops/. First and foremost attention has been focused on fertilizer application to poorly-progressing and normally-developing stands seeded on non-fallow acreage, with sufficient plant density, on which little fertilizer was applied in the fall. This work has been virtually completed by the farms in Crimean, Transcarpathian, Volyn, and Sumy oblasts. The kolkhozes and sovkhoses of Marinskiy, Velikonovoselkovskiy, and a number of other rayons in Donetsk Oblast accomplished fertilizer application by 1 April, which considerably improved the condition of the winter crops. The agronomy service is everywhere conducting a careful survey of winter crops in order to specify in a prompt and timely manner what crop care field work is required.

Principal attention is presently concentrated on /performing field work with minimal moisture loss/. In particular, the number of cultivation passes is being reduced wherever possible, normal cultivation is being replaced with harrowing, wide-swath equipment is being employed, and field work is being done around the clock: the soil is prepared at night, and the fields are seeded during the day.

Farm machinery operators on the Kolkhoz imeni Kalinin in Yakimovskiy Rayon, Zaporozhye Oblast, planted 525 hectares to spring small grains in two days. Tractor operators Mykola Ivanovych Stuk, Mykhaylo Mykytovych Radych, and Fedir Mykolayevych Mykhayletyuk, thanks to precision organization of labor, accomplished their daily work quota by 120-150 percent. A high performance was achieved by Vasyl' Petrovych Zamkovyy of the Bat'kivshchyna Kolkhoz in Primorskiy Rayon. There are also many such examples in other oblasts as well.

At the same time one is concerned by shortcomings in preparation for and organization of spring field work. For example, on the Kolkhoz imeni Il'ich in Volnyanskiy Rayon, Zaporozhye Oblast, only three of the nine available seeder units were operating on the first two days of the planting. This farm has not solved the problem of mechanized seeder loading, hauling water and meals to the

fields by vehicle, and the farm machinery operators were delayed in beginning the workday. They are short quite a few farm machinery operators, mechanics and expert machinery setup men in the rayon for accomplishing the aggregate of spring field work.

/Sel'khoztekhnika departments are not giving adequate assistance to kolkhozes and sovkhozes in the area of accelerated tractor repair and providing farms with requisite materials and spare parts./ In the shops of Vasilkovskiy Rayon, Dnepropetrovsk Oblast, 13 tractors have been in for repairs more than 40 days beyond the established time required. Two DT-75 tractors belonging to the Kolkhoz imeni Shevchenko in Orekhovskiy Rayon, Zaporozhye Oblast, have been under repairs at the Sinelnikovo Specialized Shop since last October. Quality of repair on tractors, agricultural implements, parts and assemblies remains poor. Seventeen percent of the tractors owned by the farms of Donetsk Oblast were sent to overhaul enterprises for additional repairs just in January and February 1984.

Delay in the repair of high-horsepower tractors is continuing in Crimean, Kherson, Sumy, and other oblasts. Only 63-85 percent have been readied for service in Chervonoarmeyskiy, Belogorskiy, Kirovskiy, and Sakskiy rayons in Crimean Oblast, the figure is 60-78 percent in Vysokopolskiy, Nizhneserogozskiy, Velikoaleksandrovskiy, and Belozerskiy rayons in Kherson Oblast, although these tractors are critically needed for the spring field work.

Last year's experience indicated the great advantage of beginning irrigation early, due to which many farms in Crimean, Odessa, Zaporozhye, and other oblasts produced considerably larger harvests. In the Crimea, however, where the irrigation season has already arrived, a great deal of sprinkler equipment has not yet been readied for operation.

There have been delays in cleaning and repairing irrigation systems. In Kalanchakskiy and Skadovskiy rayons this work is only 85 percent completed, 69 percent completed in Tsyurupinskiy and Chaplinskiy, while it is only 27 percent completed on the Sovkhoz imeni Chapayev in Chaplinskiy Rayon.

In some rayons they are slow about introducing the collective contract. In Kirovskiy Rayon, Crimean Oblast, for example, only 50 percent of irrigated acreage will be serviced by crews using this form of organization of labor.

It is necessary /to accelerate the planting of early vegetables,/ fully to utilize available equipment for growing and thinning seedlings, and to put down hotbeds to produce late cabbage seedlings.

In order to prevent the spread of smut diseases, the farms of Dnepropetrovsk, Donetsk, Ivano-Frankovsk and other oblasts preplant-treated all spring-crop seed. A number of kolkhozes and sovkhozes in Cherkassy, Ternopol, Vinnitsa, Kherson, and Kiev oblasts, however, are failing to heed the advisability of this procedure.

/Increasing corn yields is assuming greater importance/ this year than ever before; corn harvests should be almost doubled.

According to the experience of the corn farmers in Dnepropetrovsk Oblast, the process of adjusting SUPN-8 and SPCh-6 corn planters for rate and depth of seeding should be brought to completion, the ground should be well leveled, the requisite quantity of fertilizers should be applied, herbicides should be incorporated into the soil in a high-quality manner, planting should be done at the optimal times, the recommended hybrids should be maintained in each zone as regards ripening groups with optimal density, and treated seed should be utilized, in order to /plant corn without delay/.

/The work pace is intensifying in beet, potato, and feed crop growing. Benefit is gained by those farms which economically and efficiently utilize each and every work hour and which carry out in a prompt, timely, and high-quality manner the entire aggregate of the spring-cycle field work./

According to the forecast, this year's crops may have a greater problem with weeds, and therefore every farm should /carry out all procedures to combat weeds/. Alongside employment of preplant-incorporated or backup herbicides, farmers should not forget to employ proper cropping procedures, which will be of great importance if soil moisture is insufficient.

All practical activities by local agricultural agency administrators and specialists should be concentrated on strengthening discipline and orderly procedure on every farm, improving management style and methods, improving on-farm record-keeping and accounting, and adoption of the collective contract. All this should ensure meeting the plan targets for the fourth year of the five-year plan.

3024
CSO: 1811/53

MAJOR CROP PROGRESS AND WEATHER REPORTING

FIELD WORK PROGRESS IN DONETSK OBLAST

Kiev SIL'S'KI VISTI in Ukrainian 8 Apr 84 p 1

[Article by A. Yeremenko, member of the editorial staff of the oblast newspaper RADYANS'KA DONECHCHYNA, Donetsk Oblast: "On an Optimal Timetable: Donetsk Farm Machinery Operators Are Highly-Productively Utilizing Every Good-Weather Hour for Planting"]

[Text] Good, warm weather has come to Donetsk Oblast. All grain farmers are endeavoring fully to utilize soil moisture reserves in these conditions. They have pledged to produce overall yields of not less than 27.5 quintals of grain per hectare. Spring barley -- the principal backup crop -- determines to a significant degree the level of grain production in this oblast. Almost 220,000 hectares will be planted in barley.

Farm machinery operators in Novoazovskiy and Pershotravnevyy rayons have already completed planting early spring crops. Precision job organization and extensive socialist competition ensured high quality and rapid pace. On the Priazovskiy Sovkhoz in Pershotravnevyy Rayon, for example, seeding crews were meeting shift targets by 130 percent. A particularly fine job was done by the crews of M. H. Zhyzhkun, I. O. Simonov, and V. Z. Vdovychenko. The crew of V. Ya. Solizhin from the Mariupol'skiy Sovkhoz in Volodarskiy Rayon has been planting 40 hectares a day. Seeding crews on many farms are doing shock-work labor. Field work is picking up the pace in Volnovakhskiy, Telmanovskiy, Starobeshovskiy, Marinskiy, and other rayons. First-class seed of the finest area-tailored varieties is going into the ground.

This year the oblast's grain farmers pledged to boost labor productivity by 1 percent above and beyond the plan target and to reduce agricultural production cost by half a percent beyond target. From the very first days of the planting season farm equipment crews have organized their work in such a manner as fully to utilize the capabilities of each and every piece of farm machinery.

Thirty-eight unregulated workforces are working in the farm fields of Krasnoarmeyskiy Rayon. Due to extensive utilization of scientific advances and advanced practices, their labor productivity is 20-25 percent higher than that of workforces working on the basis of a work order. This is equivalent to the additional assignment of more than 130 farm machinery operators to planting operations.

More than 80 wide-swath, as well as almost 60 combined units are being used in cultivation and planting in this rayon, which also makes it possible substantially to increase labor productivity and to reduce labor outlays per unit of work performed. By means of this alone farmers are planning to speed up planting by two working days, thus freeing a large number of workers for other urgent spring jobs.

Other farms in the oblast are also using wide-swath equipment.

The farms in this oblast will be planting a good deal of corn. Approximately 90 brigades, working on a collective contract, will be using an industrial-type technology to grow corn on 135,000 hectares.

This oblast's corn farmers fully utilized the winter to increase their theoretical knowledge and became acquainted in detail with the experience of leading corn growers. They have pledged to produce this year overall not less than 36 quintals of grain per hectare. The fields have been properly fertilized, and machinery and equipment on the farms are ready to work in the fields.

Mechanized workforces which have been assigned to grow sunflowers are currently concerned with the future harvest. Farms in this oblast have produced a ton of oil per hectare. Thorough study of this experience indicated that with proper farming techniques on all sunflower acreage, which is running 150,000 hectares, it is possible to obtain not less than 20 quintals of seed per hectare. Farm workers have pledged to produce precisely such a yield this year. They are making sure to prepare the fields as well as possible for planting sunflowers and to plant at an optimal time.

The productivity of soil-cultivation and seeding equipment depends to a decisive degree on the extent to which the farm technical support service operates. Equipment repair teams are working on two shifts, which makes it possible to reduce to a minimum unforeseen equipment downtime in the fields. Spare parts and assemblies exchange stations have been set up right on the farms.

Two-shift operations by the shops, supply warehouses, exchange stations and other services have been set up at Raysel'khoztekhnika enterprises. This enables the partners in the agroindustrial complex promptly to assist farm workers precisely when help is most needed. More than 30 mobile repair teams are continuously on duty in the fields. Each team has at its disposal a mobile unit with a set of requisite tools and spare parts.

3024

CSO: 1811/53

MAJOR CROP PROGRESS AND WEATHER REPORTING

WEATHER CONDITIONS RELATING TO FIELD WORK IN BELORUSSIA

Spring Arrives

Minsk SEL'SKAYA GAZETA in Russian 1 Apr 84 p 1

[Article by G. Ivanchuk, senior engineer-agrometeorologist of the Belorussian Hydrometeorological Center: "Spring is Hurrying Us"]

[Text] On 26-27 March there was a break toward spring in Belorussia. The average atmospheric temperature reached above zero. For most regions in the republic this time period is close to the long-term average but in the southwestern part of the USSR it is 7-10 days late.

The warm weather that has developed has resulted in the packing and melting of snow in the fields. The snow cover is decreasing noticeably and as of 25 March it had not yet melted in a line north of Grodno, Shchuchin, Baranovich, Mar'ina Gorka, Oktyabr', Zhlobin and Kostyukovich.

This winter the freezing of the soil was fairly great, comprising 40-70 centimeters in most areas and 80-100 centimeters in the east. The warm weather accelerated its thawing. As of 30 March in the southern half of the republic mineral soils had thawed to a depth of 5-15 centimeters.

As a result of exceedingly difficult overwintering conditions winter crops and perennial grasses were very weakened and need careful care and timely top-dressing, especially since some of the crops were poorly developed when winter began and did not achieve a complete tillering stage. Our goal is to complete the early spring top-dressing of crops in the shortest time possible. According to our calculations, the best agrometeorological conditions for beginning this work will exist in the southern part of Belorussia during the first, in the central--during the second and in the north--during the third five-day period in April.

A very responsible moment in the early spring period involves the proper selection of a time to begin field work on drained peat lands. For example, this time has arrived on the peat lands of the Poles'ye.

On mineral soils the optimal conditions for conducting spring field work, that is, when the top layer of soil reaches a soft plastic consistency, will occur in the southern section beginning on 15 April and in the northern--on 20 April.

On light soils in the southern regions of the republic it will be possible to work selectively during the second 5-day period in April.

It should be considered that this year spring processes are developing somewhat unusually--the snow cover is decreasing more because of evaporation than melting. This can result in significant losses of moisture from the soil. For this reason field work should be completed in a shortened period of time in order to effectively utilize the productive moisture available in the soil.

Warming Trend Continues

Minsk SEL'SKAYA GAZETA in Russian 7 Apr 84 p 1

[Article by G. Ivanchuk, senior engineer-agrometeorologist of the Belorussian Hydrometeorological Center: "The Weather and Crops"]

[Text] In the course of the past week there has been very warm weather, primarily without precipitation. On the warmest day, 4 April, atmospheric temperature reached +12 to +18 degrees and the average daily atmospheric temperature surpassed the norm by 6-8 degrees. This type of weather facilitated further thawing and drying of the soil. In the southern part of Grodno, most of Brest and the western half of Gomel Oblast the soil has thawed completely and has already reached a soft pliable consistency. At a depth of 10 centimeters it warmed up to 5-7 degrees. On the remainder of the territory the depth of thawing comprises basically 10-20 centimeters, the soil is extremely moist and there are just a few places in the northern and eastern regions that are experiencing shortages of moisture.

An analysis of the materials collected at the hydrometeorological station of Belorussia shows that during the current year the agricultural spring arrived 7-10 days earlier than usual, i.e. the average daily atmospheric temperature increased by 5 degrees. On the majority of the territory agricultural spring will arrive at close to the long-term average time and 2 weeks later than last year. In the southern half of the BSSR the renewal of vegetation has been noted in winter crops and perennial grasses. In Brest, a large portion of Grodno and in the south of Minsk and Gomel oblasts a swelling of buds has been noted in fruits. The time has come almost everywhere in the republic to begin the top-dressing of winter crops and grasses and in the southern region conditions have developed to implement the sowing of early spring crops. This year in view of the existing agrometeorological conditions (increased temperature, absence of precipitation and frequent strong winds) there has been an intensive drying out of the top layer of soil. This is why it is imperative to conclude field work on a compressed schedule.

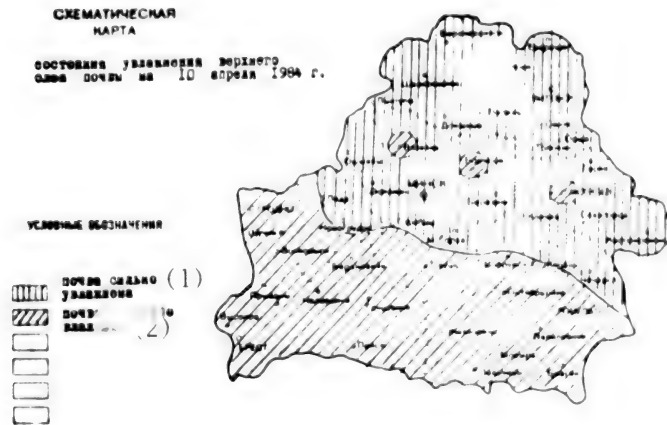
Soil Continues to Thaw

Minsk SEL'SKAYA GAZETA in Russian 15 Apr 84 p 2

[Article by G. Ivanchuk, senior engineer-agrometeorologist of the Belorussian Hydrometeorological Center: "The Weather Service for the Farmer"]

Schematic Map

Status of Moisture Content of Upper Soil Layer as of 10 April 1984



Key:

- (1) Extremely moist soil
- (2) Moderately moist soil

[Text] In the course of the past week very warm and dry weather has held over Belorussia. The average daily atmospheric temperature was primarily 7-12 degrees, which is 4-8 degrees higher than the long-term average, and during the day the atmospheric temperature reached +14 to +19 degrees.

High temperatures, the absence of precipitation and frequent strong winds were the basis for the drying of the air. Relative humidity was 50-75 percent and in a number of rayons in Brest, in some areas of Grodno and Gomel and in a few places in Minsk and Vitebsk oblasts atmospheric humidity decreases to 30 percent and less in the course of 1-4 days.

Agrometeorological conditions were favorable for the growth and development of winter and perennial grasses. On most of the territory vegetation was revitalized 5-10 days earlier than the long-term average, and in the west--approximately on schedule. In some parts of Brest Oblast the stalks of winter rye have begun to grow. The moisture supplies for crops are sufficient. In the soil's plowing layer there are 25-50 millimeters of productive moisture, and in some places on heavy soils in Vitebsk and Minsk oblasts--60-70 millimeters.

In the course of a week there was a further drying out and warming of the top layer of soil. As of 10 April on most of the territory in the republic the soil had thawed completely and only in the eastern parts of Vitebsk, Mogilev and Minsk oblasts there still remains a frozen layer of 10-40 centimeters. In Brest, a large part of Gomel and Grodno and the southern parts of Minsk and

Mogilev oblasts the top layer of soil is in a moderately moist condition, but on the remainder of the territory it is still extremely moist. The temperature of the soil at a depth of 10 centimeters was 5-8 degrees; in some places in the south and west of the BSSR--9-10 degrees.

In the southern part of the republic favorable conditions have developed for sowing early spring crops and for planting potatoes. Moisture reserves on late-fall plowed fields and in the plowing layer are sufficient and comprised 25-50 millimeters as of 8 April. However, as a result of the predominance of very warm and dry weather, on light soils in the southern part of Belorussia the top 2-3 centimeter layer dries out quickly. This is why it is essential to complete field work within a compressed schedule.

8228

CSO: 1824/402

MAJOR CROP PROGRESS AND WEATHER REPORTING

EQUIPMENT SUPPLY SITUATION EXAMINED

Moscow SEL'SKAYA ZHIZN' in Russian 24 Mar 84 p 1

[Article by A. Popov: "Dependable Supplies for the Sowing Period"]

[Text] The time is coming for mass spring field work in kolkhozes and sovkhozes. Preparations for this in enterprises was the subject under discussion at the regular meeting of the All-Union Executive Staff on Material-Technical Supplies to Agriculture. It was opened by the chairman of Goskom-sel'khoztekhnika [State Committee of the Agricultural Equipment Association] of the USSR, L. I. Khitrin.

An important role in securing the readiness of agricultural machines for field work is given to the collectives of industrial enterprises which supply the village with technology and spare parts. As was noted at the meeting, some suppliers violate schedules and do not act like partners. Thus, in the course of 2 months a number of enterprises of USSR Minsel'khoz mash [Ministry of Agricultural Machine Building] did not fulfill plans for the delivery of spare parts for tractors and machines that were in short supply. Among the debtors were the production associations Tselinogradsel'mash [Tselinograd Agricultural Machinery Association] and the Krasnoyarsk Combine Plant and the plants Millerovosel'mash [Millerovo agricultural machinery plant], Belinsk sel'mash [Belinsk agricultural machinery plant], the Noginsk Plant for Fuel Apparatuses and the Rubtsov Plant for Tractor Spare Parts.

A number of enterprises of this ministry--the plants Altaysel'mash [Altay agricultural machinery plant] and Chirchiksel'mash [Chirchik agricultural machinery plant]--tolerated lags in the delivery of KPSH-8 cultivators, nine-base plows and other machines.

An intensive situation has developed in a number of places as regards supplies of spare parts for automobiles and powerful tractors. Once again lagging enterprises were named in this regard--the Minchursk Motordetal' Production Association, the Yaroslav Avtodizel' Production Association, the Kutaisi Auto Plant, the Yerevan Avtoagregat Plant and the Sinel'nikovskiy Spring Plant.

At the staff meeting it was noted that in a number of rayons the import of sufficient quantities of fuel and lubrication material was not completed.

It was emphasized that the timely delivery of agricultural machines and spare parts is being hindered by the untimely delivery of railroad cars. Thus, in the Minsk Tractor Plant 1,670 tractors were not shipped out; in the Volgograd Tractor Plant--1,225 tractors.

At the preceding staff meeting the necessity of accelerating the shipment of sowing machines from Belinsk'sel'mash [Belinsk agricultural machinery plant] was pointed out, but the situation still has not changed. There are 2,115 sowing machines which have accumulated in the enterprise. Over 4,000 reapers were not sent from the Tula Combine Plant. The Gomsel'mash Plant, the Cheboksary Assembly Plant and the Gorkiy and Kamskiy auto plants continue to experience difficulties in the shipment of ready products.

The staff indicated specific measures for eliminating shortcomings in material-technical supplies to agriculture.

Participating in the meeting were responsible workers from the CPSU Central Committee, the USSR Council of Ministers, the USSR Committee of People's Control, USSR Gosplan and representatives of ministries and departments.

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CSO: 1824/351

MAJOR CROP PROGRESS AND WEATHER REPORTING

TRADE UNION SUPPORT FOR FIELD WORK IN USSR

Moscow TRUD in Russian 7 Apr 84 p 1

[Article: "Concerns of the Spring Field"]

[Text] The first trip into the spring fields is always a celebration for the grain farmer. After doing what was fitting for this celebration, people joined in intensive work in which every hour is held dear. If you cultivate the soil on time, sow good quality seed and are not late in retaining moisture you can count on a good harvest. The numbered days, the same ones that feed for a year, depend on nature and agrotechnology for all operations.

The fate of indicated plans depends to a decisive degree on the organized, timely and quality completion of spring sowing, it is stated in a letter by the participants of the All-Union Economic Conference on Problems Within the Agro-Industrial Complex to the CPSU Central Committee and the General Secretary of the CPSU Central Committee, Comrade K. U. Chernenko. Village workers are making every effort to produce a large harvest in every enterprise on the basis of intensification.

Today sowing is beginning on a broad front in the southern regions of the country. In the Kuban, Stavropol and Crimea the sowing of early spike crops is completed. Last week's rains helped the mood of farmers in those areas where the past dry fall and winter with little snow had grave consequences for winter crops. At the present time they are actively being cared for and over 20 million hectares have already been top-dressed. Measures are being taken to combat weeds and pests. This entire complex of work requires the mobilization of forces and material-technical resources, a clear organization of labor and a high degree of discipline from each participant in the sowing campaign.

During this period serious tasks are assigned to trade union committees of kolkhozes and sovkhozes, beginning with participation, together with directors of enterprises and party committees, in preparing sowing plans for every subdivision and every unit of workers. Water-retaining technology requires that all operations be completed without delays and strictly according to technology.

Here it is not enough to make out an hourly schedule. The work conditions created and the moral and material stimuli presented must be such that each

machine operator becomes deeply interested in strictly observing the indicated agrotechnical schedules and quality of work.

The organization of the activities of contract collectives requires special attention on the part of trade union committees. All committees now have the necessary recommendations and during the past year serious experience was amassed with regard to the extensive introduction of the unregulated brigade system in farming. This means that we must strive to direct more and more brigades and links toward the end result and that within the administration of enterprises there must be a strict adherence to contractual agreements.

During the current sowing campaign the activities of rayon committees of the trade union for agricultural workers must be built on a new level. Rayon agro-industrial associations have been created everywhere. The ties between enterprises and service organizations have become more defined. Thanks to the more interested participation of subdivisions of Sel'khoztekhnika [Agricultural Equipment Association] in preparing the machine and tractor fleet for sowing its condition is better this year than last. But there are a number of oblasts in which the repair of technology is being delayed unjustifiably--Novgorod, Kalinin, Kostroma and Kirov. Exhibiting initiative in beginning competition among factories producing parts for use by another is the main task of village trade unions.

Enterprises themselves must show more concern in this area. As discovered by raid participants in the Rodina Sovkhoz of Olulovskiy Rayon, Novgorod Oblast, in mid-March half of the sowers here were not repaired and a third of the caterpillar tractors requiring overhauling were not yet sent to Sel'khoztekhnika. A broken sowing machine has been standing in the sovkhoz shop since November and no one has done anything with it.

Persistent concern is required by the preparation of cadres of machine operators for sowing. In some regions there is a shortage of cadres for fully equipping sowing units and complexes, even with one-shift operations. In Penovskiy, Nelidovskiy, Oleninskiy and a number of other rayons of Kalinin Oblast there are only 60 machine operators for every 100 tractors. The decision made by the oblast executive committee concerning the training of such cadres during the fall-winter period is being implemented extremely unsatisfactorily. It is understandable that in the weeks remaining prior to sowing there can be no cardinal correction of such an urgent situation; the pool of machine operators can only be replenished by means of a system of detailed socio-economic and educational measures, beginning with professional orientation in school. But we also cannot delay the solution to the problem into the future.

One of the reliable ways to secure cadres in enterprises and to recruit them for work as machine operators is daily concern for favorable work conditions for them. The farmer's shop is under the open sky. This means that tractor operators who work outside all day must be given the opportunity to get warm, to dry off during bad weather and to eat warm food on schedule. It is the task of trade union committees to achieve the creation of good working conditions in all field camps.

The sowing front is moving further and further north. The force of the agro-industrial complex created in the country is allowing us to complete this important campaign on schedule and with good quality, thereby laying a dependable foundation for the harvest during the fourth year of the five-year plan.

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CSO: 1824/351

MAJOR CROP PROGRESS AND WEATHER REPORTING

MOSCOW REPORTS AGRICULTURAL DEVELOPMENTS 25 MAY-6 JUNE

25-26 May

LD270155 [Editorial Report] The following is a compilation of reports on agricultural developments in the USSR carried by Moscow Domestic Service in Russian on 25-26 May. Times of broadcasts are given in parentheses at the end of each item.

25 May

Sowing of wheat is ending in the virgin lands. (0204 GMT)

Kurgan Oblast: Grain crops sown on half of total area. Total sown area so far is almost 700,000 ha. (0204 GMT)

In Kustanay Oblast, Kazakhstan, over 5 million ha has been designated for spring crops; sowing has so far been completed on 3 million ha, the crops being wheat and barley; in addition potato planting has been completed and sowing of corn, buckwheat, and other crops has begun. (2005 GMT)

26 May

Kustanay Oblast: About 350,000 ha are being sown with grain crops every day. So far wheat has been sown on 2 million ha, or about 70 percent of the designated area. (0204 GMT)

Mechanizers of Omsk Oblast are today sowing wheat on 2 million hectares. A little more than 200,000 ha of wheat remain to be sown, which is 2 to 3 days work. (0600 GMT)

Irrigation has begun on Tambov meadows, fields, and pastures. Dry hot weather is prevailing at present in many places of the Central Non-Black Soil Region. (0600 GMT)

Sowing of sunflower for grain completed in Altay. Ninety thousand ha sown to it. Sowing of spring wheat in progress on 2d million ha. (0800 GMT)

Wheat and barley occupy almost 2 million ha in the Kuban Steppe. Harvest time is coming nearer and nearer; more than 17,000 combine harvesters are ready for the fields. (0800 GMT)

27-28 May

LD290330 [Editorial Report] The following is a compilation of reports on agricultural developments in the USSR carried by Moscow Domestic Service in Russian on 27-28 May. Times of broadcasts are given in parentheses at the end of each item.

27 May

Novosibirsk Oblast: Over 1 million ha allocated to wheat. (0400 GMT)

The sowing of spring wheat has in the main been completed in northern Kazakhstan. (0600 GMT)

28 May

Spring sowing has been completed in Mordovia. Crop-care and irrigation underway. (0204 GMT)

Ryazan: second interrow cultivation of potato plantations going on. (1530 GMT)

Kuybyshev Oblast: first watering of perennial grasses was completed today on an area of almost 50,000 ha. (1530 GMT)

Corn for grain sowing completed in North Ossetia. (2300 GMT)

29-30 May

LD310207 [Editorial Report] The following is a compilation of reports on agricultural developments in the USSR carried by Moscow Domestic Service in Russian on 29-30 May. Times of broadcasts are given in parentheses at the end of each item.

29 May

Tomsk Oblast has sown grain on one-third of sowing area. Potatoes are being sown. (0001 GMT)

Orenburg Oblast starts competition in feed preparation. (0001 GMT)

Sivinskiy Rayon in Perm Oblast finishes spring sowing. (0600 GMT)

In Altay Kray two-thirds of the area planned for grain has been covered; spring wheat is still being sown at fast tempo. (0800 GMT)

Sowing in Kazakhstan is almost finished. Spring crops have so far been sown on 25 million ha. More wheat than was planned has been sown. Plans for cotton and rice have been overfulfilled. Barley, soya, millet, buckwheat, and sunflower for grain are now being sown. Corn has been sown on 2 million ha. (1100 GMT)

30 May

Tuva farmers complete grain sowing a week earlier than last year. (0001 GMT)

Grain sowing has started on the second million hectares in Novosibirsk Oblast. (0001 GMT)

Kurgan farmers are completing sowing on the 2 millionth ha. Wheat and potatoes were sown in the optimum period, and shoots are already appearing. Sowing will end this week. (0030 GMT)

Planners in Karaganda have elaborated a scheme for developing land improvement and water management in Karaganda Oblast. The irrigated area here at present stands at over 100,000 ha but water resources for irrigation farming are now almost exhausted. It is, therefore, proposed in future to lay on regular irrigation making use of underground water from artesian wells and to make fuller use of the Irtysh-Karaganda canal as well as waste water from industrial enterprises. (0200 GMT)

Omsk Oblast completes sowing wheat on 1.3 million ha today. Almost two-thirds of the area has been sown with new high-yield varieties. (0600 GMT)

Tyumen Oblast is doing spring sowing on the last third of the allocated area. (0600 GMT)

Mass feed procurement is taking place in Don region. (0800 GMT)

Saratov Oblast: Feed is being procured. (0800 GMT)

Cherepovets Ammofos Association has completed supply of mineral fertilizer to rural workers ahead of schedule. (100 GMT) [as printed]

Chardzhou Oblast mechanizers are the first in Turkmenistan to begin harvesting winter breadgrains. (1100 GMT)

Seed drills and cotton seeds have today moved into the breadgrain fields of Kashkadarya Oblast. This commercial crop is being sown on land freed from winter wheat. The introduction of repeated sowing of cotton is being carried out according to the plan for intensification of agriculture designed to increase agricultural output. (1100 GMT)

Farmers in Masis Rayon of Armenia have begun harvesting early potatoes. A good yield has been grown. The cleared area is being immediately prepared for cultivation of tomatoes, onions, carrots and other agricultural crops. (1100 GMT)

Mass cabbage-picking is in progress in the north of Azerbaijan. (1300 GMT)

Mass tea-picking is in progress in plantations of the Sochi "Krasnodarskiy Chay" Association. (1300 GMT)

Cotton-growers in Turkmenistan have pledged to pick a record amount of 1,241,000 tons this year. Sowing has now been completed almost everywhere. Help in tending cotton fields is being given by workers from the republic's industrial enterprises. (1330 GMT)

Deliveries of early vegetables have now started. Scientifically-based cultivation methods will in future enable deliveries to continue almost all year round. Under the Food Program, Turkmenistan, among other Central Asian republics, is to become a staple base for vegetable supplies to the European part of the country and to the Urals, Siberia and the Far East. This year, the republic has pledged to deliver 305,000 tons, considerably more than last year. (1330 GMT)

Mass haymaking has begun on the farms. Merited Agronomist Kovryalov comments at the microphone, noting that the target is to procure in the country as a whole coarse and juicy feed equivalent to at least 135 million feed units. This would be a record--but is perfectly feasible, since there are about 60 million ha of feed crops on plowed land alone, and a further 370 million ha of natural feed. (1800 GMT)

31 May-6 June

LD070630 [Editorial Report] The following is a compilation of reports on agricultural developments in the USSR carried by Moscow Domestic Service in Russian on 31 May-6 June. Times of broadcasts are given in parentheses at the end of each item.

31 May

The last sowing machines have left the cotton plantations of Turkmenistan after completing reseeding on almost one-third of the area. (0001 GMT)

Omsk Oblast is completing its grain sowing. Wheat, barley, and oats have been sown on almost 2 million hectares. (0204 GMT)

Machine operators from Surkhandariya Oblast in Uzbekistan and Turkmenistan are the first to begin grain harvesting. Haymaking has started in North Ossetia and Kharkov Oblast. (0400 GMT)

Grain and pulse sowing has been completed in the European part of the USSR and wheat sowing is finished in Kazakhstan. (0800 GMT)

1 June

Sverdlovsk Oblast is sowing grain and pulse on the last hectares. Uzbekistan has prepared 1 million tons of hay. (0001 GMT)

Spring sowing is ending in the Kazakhstan virgin lands. (0204 GMT)

Over 45,000 hectares has been sown to corn in Kirgiziya. (1530 GMT)

Ashkhabad Oblast has begun harvesting. (2204 GMT)

2 June

Tajik Oblast machine operators complete second mowing of alfalfa. Fodder preparation has started in the fields of Chuvashiya. (0400 GMT)

Kazakhstan growers have completed their spring field work today. An area of 25 million hectares has been allocated to grain crops. Preparations for the harvesting of winter crops are under way in North Ossetia. (1300 GMT)

Despite difficult weather, Kazakhstan's farmers have sown spring crops on more than 28 million hectares, much of it as grain crops. On the whole wheat acreage, high-grade seeds of strong and hard strains have been sown. About a quarter of the area is occupied by new high-yield strains. The acreage of rice and pulse is greater than last year. The targets for sowing buckwheat and millet have been fulfilled. Sugar beet and cotton have been sown over plan. Farmers of Kostroma Oblast plan to increase by nearly 50 percent their production of stockbreeding and arable farming produce for this 5-year plan. (1530 GMT)

Wheat sowing is in progress in Altay. Wheat will be sown on almost 3 million hectares. (1800 GMT)

3 June

The first watering of crops in the Crimea is finished. The total area of irrigated lands here exceeds 325,000 hectares. (1530 GMT)

Mass harvesting of alfalfa has begun in the north of Kazakhstan where it was planted on an area of 28,000 hectares. (1750 GMT)

In connection with Land Improvers' Day we quote the following facts: The area of reclaimed land on the country's farms is now some 35 million hectares. On this land over one-third of the entire cropping output is produced. (1830 GMT)

4 June

The making of vitamin-rich grass meal started in the Mari Assr non-Chernozem Zone. Farms are to make more than 40,000 tons of this valuable fodder this year. (0100 GMT)

5 June

Kostroma Oblast farmers have started fodder laying-in. Omsk Oblast farmers are cutting winter rye at an intensive rate. In Smolensk the area sown to flax is 105,000 hectares and weeding is under way. (0600 GMT)

In Maritime Kray fodder procurement is under way. Khabarovsk Kray plans to produce almost 1.5 million tons of fodder this year. (2005 GMT)

6 June

The first cutting of sown and perennial grasses has started in the Mari Assr. (0204 GMT)

The sowing of post-harvest crops has begun in Northern Ossetiya. (1500 GMT)

A new type of Triticale--Altayskiy-1--created by scientists of the Altay Scientific Research Institute has shown high resistance under a drop in temperature. Among all types of winter crops cultivated in the present season in Altay, this hybrid of wheat and rye survived the winter and spring frosts better than any others. It has been decided to spread plantations of the Altayskiy-1 in the next few years over the whole of Siberia. Tselingorad Oblast agricultural workers have undertaken to procure 200,000 tonnes of hay for the winter. (1530 GMT)

The areas sown to alfalfa, clover and other high-protein fodder crops has been increased this year by 3 million hectares. Sown and meadow grasses have been cut on almost 5 million hectares. (1800 GMT)

CSO: 1824/518

MAJOR CROP PROGRESS AND WEATHER REPORTING

BRIEFS

ODESSA OBLAST SPRING CROPS--"Performance of spring field work and servicing of the planting crews," stated O. A. Shalang, first secretary of the Ivanovskiy Rayon party committee, "is directed by the rayon agroindustrial association. The rayon committee has recommended to its people that they shift all work into the field, unify the efforts of the partners in the agroindustrial complex and concentrate them on accomplishing an important task -- prompt preparation of the soil and planting of spring crops on a much larger acreage than in previous years. The rayon's farms are to plant 26,000 hectares in spring crops in a period of 60 working hours." Wide-swath equipment will help speed up the pace of spring field work. There are approximately 100 such units in the rayon. Shift-scheduled utilization of equipment is helping achieve a successful effort. Farmers realize that accomplishing planting rapidly means preserving moisture and producing high yields. The workers of our southern farms have become convinced by many years of experience that delaying planting by one or two days leads to loss of from 2 to 3 quintals of grain per hectare. [By S. Shandar] [Excerpt] [Kiev SIL'S'KI VISTI in Ukrainian 1 Apr 84 p 1] 3024

ROVNO OBLAST AERIAL APPLICATION--Aircraft fly over the fields: agricultural aviation pilots are working on spring job orders. In Dubnovskiy, Chervonoarmey-skiy, Mlinovskiy, and Rovenskiy rayons there are a large number of aircraft at work. During daylight hours nitrate fertilizers and liquid combined fertilizers are being applied to more than 5,000 hectares. R. M. Kulyasha, senior engineer in the Rovno Aviation Enterprise's department for employment of aviation in the national economy, is keeping figures on work performed on kolkhozes and is maintaining close contact with farm managers, in order to shift equipment from one location to another in a flexible manner, according to the condition of the soil. Aviators have not been working long on the basis of "harvest" job orders, but leading performers have already been noted. Roman Mykolayovych gives a briefing on the spring schedules of his workforce of aviators. Literally in a 10-day period they must apply fertilizer to 80,000 hectares of grain -- half the oblast's winter crops acreage. Presently they are applying fertilizer on the average to 5,000 hectares of crops each day. And soon output will increase: neighbors will come to the assistance of the Rovno aviators -- 10 pilots will be coming in from brother Belorussia. They will return home with doubled manpower: they will be assisted in their field work by people from Rovno Oblast. This oblast's grain farmers are endeavoring to achieve new performance levels this year in grain farming. The agricultural aviation people -- reliable partners -- are greatly assisting them in this endeavor. [By O. Grigor'yev] [Text] [Kiev SIL'S'KI VISTI in Ukrainian 3 Apr 84 p 1] 3024

NIKOLAYEV OBLAST--Good news is coming in from the spring fields of Voznesenskiy, Berezanskiy, and other rayons in this oblast, where they are extensively utilizing high-output seeding equipment. On the farms of Veselinovskiy Rayon, for example, all field work is being done by high-output machinery. This spring, with an increase in work volume in connection with reseeding a portion of the winter crop acreage, with a considerable number of urgent matters coming up simultaneously, utilization of wide-swath equipment is assuming particular importance. [By Ye. Ivanchuk] [Text] [Kiev SIL'S'KI VISTI in Ukrainian 6 Apr 84 p 1] 3024

TERNOPOL OBLAST--Here in the southern part of the oblast, where the farms of Borshchevskiy Rayon are located, spring plowing was rapidly completed. Farm machinery operators and specialists were ready. They promptly put equipment into the fields, employing advanced techniques and the best forms of organization of labor. In a period of 30 hours more than 400 combined wide-swath units enclosed soil moisture on 38,000 hectares and carried out other farming measures in caring for winter crops and perennial grasses. In the next three days the rayon's farms completed sowing all spring grains on 13,500 hectares. Equipment was promptly deployed to future sugar beet acreage. The difficult conditions occurring this spring demand management initiative and ingenuity on the part of farm specialists, equipment operators, and seeding crews. On most farms equipment in the fields is operating from early morning to late at night. [By B. Kovtun] [Excerpt] [Kiev SIL'S'KI VISTI in Ukrainian 17 Apr 84 p 1] 3024

AGRICULTURAL AVIATION AIDS FARMERS--This spring requires that farmers pay special attention to the awakening fields. In many regions winter grains need top-dressing with mineral fertilizer. Pilots from agricultural aviation are rushing to the aid of grain farmers. Thousands of planes are now circling the fields, spreading mineral fertilizer, which is greatly needed by the plants which have been greatly weakened by overwintering. In some places the consequences of a dry fall and a small snow cover have let themselves be known. "Winged farmers" have begun to apply fertilizer from the air on the fields of the Ukraine, Belorussia, North Kazakhstan, the valleys of Central Asia and several other regions. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 10 Mar 84 p 1] 8228

PLANTS BLOOM IN FALL--Yakutsk--Lying before me on the table is a cluster of the mountain cranberry plant. On its branches are small, soft-hued flowers. And this is fall. "What is the reason for this natural anomaly?" I ask the director of the Biological Institute of the Yakutsk affiliate of the Siberian division of the USSR AS [Academy of Sciences], candidate of agricultural sciences B. I. Ivanov. "Actually at this time of the year in the Yakutsk region there is usually frost on the ground or even the first snow," says Boris Ivanovich, "but this fall has been surprisingly warm--during the day the temperature rises to 18-20 degrees. Thus the weather has fooled the mountain cranberry, and not only it. In the taiga many plants have bloomed once again." During the last few days off thousands of residents of Yakutsk left the city. In 2-3 hours in the taiga, rarely so beautiful and lit with the sun, it is possible not only to rest well but to also fill pails and baskets with the gifts of the forest--mushrooms and berries. After drawing on the valuable vitamins for winter, many people sell mountain cranberries to the network of enterprises of trade cooperatives and public nutrition. [By A. Orlov] [Text] [Moscow SOVETSKAYA ROSSIYA in Russian 22 Sep 83 p 4] 8228

ADDITIONAL MACHINE OPERATORS TRAINED-- Vladivostok--In order to secure double shift operation of agricultural technology during intense sowing days the training of machine operators from among workers of industrial enterprises and city construction sites was organized in specially-created schools. [Text] [Moscow TRUD in Russian 30 Mar 84 p 1] 8228

CORN SOWN--Vladivostok--Despite the late spring the farmers of the Maritime region began sowing corn earlier than usual. This became possible as a result of the polymer "coating" of the seed of the main feed crop in the kray. Now this allows us to cultivate corn for silage under Maritime conditions with the spadix, which sharply improves the quality of feed by increasing the protein content in it. [Text] [Moscow SOVETSKAYA ROSSIYA in Russian 26 Apr 84 p 1] 8228

PEAS FOR FEED PROTEIN--Vladivostok--Productive varieties of peas will help to enrich feed rations with protein on the farms in Maritime Kray. For the first time large batches of the Chishminskiy and Ramonskiy varieties of this crop have arrived here from the Bashkir ASSR and Ulyanovsk Oblast. They will be sown together with oats, rape and sunflowers on an area of almost 20,000 hectares. [Text] [Moscow SOVETSKAYA ROSSIYA in Russian 31 Mar 84 p 1] 8228

ALFALFA SOWN--Vladivostok--The enterprises of Maritime Kray have begun sowing alfalfa. A newcomer to this region, it yields 400-500 quintals of green mass per hectare. Today the high-protein feed crop will occupy over 9,000 hectares in the kray. [Text] [Moscow TRUD in Russian 25 Apr 84 p 1] 8228

AERIAL TOP-DRESSING--Ufa, 23 [Apr]--It is difficult for rye and perennial grasses to recover their strength after the winter--during the night there is frost, during the day--plus temperatures. In order to improve the nutritive regimen of plants farmers and pilots top-dress crops on thawing ground from the air. In the Kidash Kolkhoz of Buzdyakskiy Rayon mineral fertilizer has already been applied on 1,000 hectares. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 24 Apr 84 p 1] 8228

QUALITY EMPHASIZED--Orenburg--A high level of agrotechnology for each field--this was the motto under which the oblast's grain farmers began spring sowing. The first thousand hectares were sown in grains by the kolkhozes and sovkhoses of Ilekskiy Rayon. Collective contracts, which have been introduced everywhere, increase the responsibility of machine operators for the pace and quality of work. Double shift use of sowing units plays a big role. [Text] [Moscow SOVETSKAYA ROSSIYA in Russian 26 Apr 84 p 1] 8228

READINESS FOR SOWING OPERATIONS--Kurgan, 23 [Apr] (By telephone)--In the Transurals the day when sowing will begin is near. Everything is ready for it. It is planned to complete harrowing on over 2.5 million hectares in 2-3 days. Two shifts are constantly in the fields and seed is being disinfected. This work has been organized best in Kurtamyshskiy, Petukhovskiy and Tselinnyy rayons. The technology being used is expected to produce good harvests. It is planned to cultivate no fewer than 19-20 quintals per hectare of grain alone on the average in the oblast. [By I. Shevchenko] [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 24 Apr 84 p 1] 8228

SNOWFALL IN SPRING--Barnaul--Recently Barnaul experienced its first spring storm, with thunder, lightning and a downpour. But in the morning winter returned--the ground was covered by a thick blanket of snow and the temperature dropped to minus 15 degrees. This was like a continuation of those abundant snowfalls in the Altay in mid-April. Although changes in temperature are common for this region, such abrupt changes are not frequently observed. "The reason for this," says the director of the department of hydrometeorological services of the Altay Hydrometeorological Observatory, G. Zinchenko, "was the coming together of two deep and different air masses. Active cyclones, moving through the Northern Urals from the Barents Sea and Novaya Zemlya meet with masses of warm air from Kazakhstan. The abrupt changes in temperature--from plus 25 during the day to minus 20 at night--result from the strength and power of a particular current." In April the amount of precipitation in the kray was normal, although it was mainly in the form of snow. In April these atmospheric processes are very rapid. Right now a warm cyclone is moving toward the southern part of Western Siberia and we expect that it will bring real spring with it. [By L. Kovaleva] [Text] [Moscow TRUD in Russian 28 Apr 84 p 4] 8228

WINTER RYE SOWING BEGINS--Kyzyl--The sowing of winter rye has begun in Tuva. The machine operators of the Pobeda Sovkhoz of Kyzylskiy Rayon, the initiators of a zonal system of farming in the autonomous republic, were first to bring sowing complexes out into the fallow fields. The seed of highly productive, regionalized varieties is being put into the soil. Mineral fertilizer is being applied simultaneously. This year enterprises will double the area in winter spike crops. [Text] [Moscow GUDOK in Russian 10 Aug 84 p 1] 8228

WINTER RYE SOWING--Irkutsk--The farmers of the Angara region have begun the sowing of winter rye in the northern regions of the oblast. It is being placed primarily on bare fallow using seed of regionalized varieties. In a number of enterprises the area in this crop has increased by a factor of 1.5-2. [Text] [Moscow SOVETSKAYA ROSSIYA in Russian 24 Aug 83 p 1] 8228

SNOWFALL HINDERS FIELD WORK--Vladivostok--Unusually abundant spring snowfall is hindering field work in the Maritime region. This is why, following the recommendation of RAPO [Rayon agro-industrial association] soviets, farmers have begun the selective top-dressing of meadows, pastures and fields in order not to lose time. This work is being done in the southern regions on land where the snow has already melted. [Text] [Moscow TRUD in Russian 27 Mar 84 p 1] 8228

CSO: 1824/401

LIVESTOCK FEED PROCUREMENT

RSFSR FEED SECTOR PRODUCTIVITY EVALUATED

Moscow SOVETSKAYA ROSSIYA in Russian 24 Apr 84 p 1

[Editorial: "The Feed Complex"]

[Text] Last year the Russian Federation successfully fulfilled its feed procurement plan. This made it possible to develop the positive trends noted in livestock production; purchases of cattle, poultry, milk and eggs continue to grow. The achievement is good news, but we must not be deluded by the initial success. Neither the dairy nor the meat herds are provided with nutritionally balanced feed yet and the genetic capabilities of animals are being poorly utilized. In fact, vast resources and many decades of labor of the breeders have been spent on establishing a highly productive herd.

In order to increase the output considerably from the existing potential at kolkhozes and sovkhoses, as General Secretary of the CPSU Central Committee comrade K. U. Chernenko stressed in a speech at the All-Union Economic Conference on Problems of the Agro-Industrial Complex, it is necessary to speed up the transition of agriculture to the high-speed track of development.

In intensifying livestock production, it is primarily necessary to strengthen the fodder base and the time has come to establish it in accordance with livestock norms. Imagine a plan where a considerable portion of the machine tools were standing idle. A waste, you say? That's right. So, why then do we have many farms keeping cattle on a starvation ration? From an economic standpoint this is also a useless waste of resources. Nevertheless, in agriculture such absurdities have become customary for some of the administrators.

Just look at the coarse and succulent fodder production plan. In the Dagestan ASSR today it calls for putting up only 12.8 quintals of feed units per head, less than 15 in the Kalinin Oblast, and 15.5 quintals in the Kursk Oblast. With such planning, feed production as a sector will easily come out as a leader, but there will be a shortage of feed just as before. So, a genuine concern for livestock production is being replaced by the art of statistical counterbalancing. However, perhaps in the oblasts in question they are simply relying on concentrates? If so, this is an outright orientation on mismanagement; it is not permissible to waste grain by substituting it for low-cost coarse and succulent fodders which are more effective in cattle raising. It is time to reduce concentrates in cattle rations to a reasonable minimum.

The understated quotas for coarse and succulent fodder production not correlated to the actual requirements also just leads to the agro-industrial associations not improving and increasing productivity of feed fields as they should. The yield of feed crops is still low, even of those grown on plowed fields. The hay crop from perennial grasses in Tomsk Oblast in 1983, for example, yielded less than 15 quintals per hectare and just over 16 in Kurgan and Orenburg oblasts. In Volgograd and Kaluga oblasts corn planted for silage yielded only about 100 quintals per hectare. Smolensk Oblast set a distinctive sorry record where 61 quintals of root crops were gotten from each hectare. The failures are explained by reasons that are not accidental. On the average less than a quintal of mineral fertilizers per hectare was applied to the feed fields throughout the republic.

The time is already coming or is past to sow and undersow grasses. This is always a serious test for agronomists. Those in need of special care include the sowings of perennial grasses of previous years, especially in top-dressing. Top-dressing in Krasnodarsk Kray and in the Central Chernozem is now more and more often being applied directly into the soil with regular or fertilizer spreaders. The costs per hectare this way are less and the effect is higher than spraying from the air.

This spring there is much more pea and rape seed in the republic than before. but overall the seeds of grasses and legumes remain in short supply practically everywhere. The Main Administration of Seed Production of the RSFSR Ministry of Agriculture is meeting barely half of the demands of the meadow growers, but its plan is such that it is being successfully fulfilled. Therefore, it is apparent that in the administration as well they are in no hurry to expand the production of grass seed. With such a situation, the farms themselves have to make up for the shortage. It is advisable to designate precisely defined areas for seed grass, particularly now where it has not yet been done.

Paradoxical as it may be, but at many farms in recent years the cattle are fed worse in the summer than in the winter. The time of abundant milk and low-cost meat is often missed and the cost of livestock products increases. At places where they seriously think about economics, for example, from early spring they start to care for the long-term cultivated pastures. At most farms, unfortunately, the attitude toward them is different. They do not keep them up in time, do not mow down the grass after each feeding and do not fertilize often enough. The cattle very often are pastured not by enclosed areas, but as they can. The RSFSR Ministry of Agriculture poorly propagandizes the experience of leading farms where the long-term cultivated pastures long ago became highly productive farm lands. It is also unfortunate that in determining the planting time and selecting the crops the growers usually proceed from purely agronomic considerations, but they should also remember economic feasibility; the green conveyor is called upon to justify fully its name by supplying green fodder daily. It is necessary to know already today precisely where, when and how much of it can be mowed.

Much of the coarse and succulent fodder today, as we know, is not taken from meadows and pastures, but from plowed lands. However, natural feed lands, according to the estimates of specialists, could and must provide as a

minimum 60 percent of the hay, haylage, silage and vitamin meal--not a smaller part, but a larger part of it. Such a goal is being set today by the republic's national economic plan, however, the quotas for a fundamental improvement of natural feed lands from year to year are not being met since the USSR Ministry of Land Reclamation and Water Resources (Minvodkhoz) considers this work unprofitable for its subunits. For example, the Main Administration for Non-Chernozem Water Resources Construction (Glavnechernozemvodstroy), under the jurisdiction of the USSR Minvodkhoz, was obligated to do soil improvement work on a million hectare area in the first 3 years of the five-year plan, but has done it on an area of 200,000 hectares.

The departmental position of the land developers was subjected to criticism at the All-Union Economic Conference. Apparently, in the Glavnechernozemvodstroy they are making the necessary conclusions. This year the national economic plan calls for raising the productivity of natural meadows and pastures over an area of 470,000 hectares in the non-chernozem by radical improvement. The Glavnechernozemvodstroy has set the quotas for its subunits at half that, to the detriment of agriculture and for the sake of achieving purely departmental benefits.

Until now the issue involved mainly quantitative indicators, but they, it goes without saying, do not solve everything. If you compare the feed costs with production output, in a whole number of cases the gap will turn out to be unjustly large. It is explained largely by the low quality of output. So, in Kostroma, Kirov and Perm oblasts and the Udmurt ASSR, 40-60 percent of the hay and a third of the silage stored for the winter was below grade.

The volume of procurement and quality of feed are directly dependent on the condition of equipment. A resolution of the RSFSR Council of Ministers requires that all feed production machinery be overhauled by the start of field work and all silage harvesters by 15 April. Nevertheless, reconditioning of silage harvesters has been completed only in Ivanovo and Moscow oblasts. In most other oblasts, krays and autonomous republics of the Russian Federation, they are behind the schedule made up in the fall.

Many of the modern feed-production machines are characterized by their great complexity and it is quite natural that last fall the republic's kolkhozes and sovkhoses requested the Selkhoztekhnika associations to repair, in addition to others, 19,000 silage harvesters. In spite of this, the RSFSR State Committee of Selkhoztekhnika is planning not to expand, but to reduce the volume of its repair, promising to repair only 11,000 harvesters. Serious difficulties are being experienced at the farms in repairing rotary mowers also, but again it is as if the Selkhoztekhnika specialists do not notice these difficulties.

Among the departments against which the All-Union Economic Conference directed serious claims is the Ministry of Tractor and Agricultural Machine Building. It has an obligation to the feed producers, among others; the equipment produced by it is to a considerable extent the day before yesterday of scientific and technical progress and clearly does not take into account the specific nature of the various regions of the country, especially the non-chernozem,

Siberia and the Far East. It is apparent that the desired changes, finally, will come to the activities of the agricultural machine builders. It is impossible, however, to wait for this to happen. This winter the RSFSR Ministry of Agriculture, with the help of local party and soviet agencies, organized the manufacture of highly efficient tedders and the conversion of written off grain combines into fodder harvesters at industrial enterprises of other departments and at repair shops of the State Committee of the Selkhoz-tekhnika. It is quite an undertaking.

The growing scope of livestock production and the industrialization of the sector ever more urgently requires that feed production be designated as an independent sector. We must strive more boldly for this. There is sufficient experience by which to be guided and very likely good examples in every oblast and all regions. It is also necessary to introduce the collective contract with greater energy and persistence; for the present less than half of the feed fields are under it.

Outside it is spring and it is difficult to foretell what the summer will be like. Without a doubt it can bring surprises of one kind or another. It is very important to meet them fully armed and to get people attuned so that in all cases the public herd is ensured a replete wintering and conditions are created for further increasing its productivity.

12567

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LIVESTOCK FEED PROCUREMENT

APPLICATION OF NEW NORMS FOR LIVESTOCK FEEDING DETAILED

Moscow SEL'SKAYA ZHIZN' in Russian 8 May 84 p 2

/Article by K.M. Solntsev, academician at the All-Union Academy of Agricultural Sciences imeni V.I. Lenin: "How To Compose the Rations"/

/Text/ Many readers of SEL'SKAYA ZHIZN' have requested a discussion of the new norms for livestock feeding. The Editorial Board has asked VASKhNIL /All-Union Academy of Agricultural Sciences imeni V.I. Lenin/ Academician K.M. Solntsev to answer their questions.

Is there any other animal husbandry task that is more important at the present time than the efficient use of feed? An increase in the level and full value of feeding has become a chief condition for further increasing the production of farm products and an important element of branch intensification.

In order for feed to be utilized efficiently, the feeding norms must be established correctly. However, the feeding norms existing at the present time were developed 18 years ago and naturally they do not conform to the present level of development of the zootechnical science, nor are they in keeping with the tasks of modern animal husbandry, especially with regard to the conditions for an industrial technology and the use of new feed resources.

In recent years the country's scientists have developed a new system for efficient feeding. The nutritional value of feed in accordance with this system is evaluated not on the basis of feed units but rather according to energy units of exchanged energy. This is that portion of the energy of feed which the animals utilize for ensuring their vital activities and the production of goods. Since the physiology for the various types of livestock differs, the nutritional value of the same feed, when evaluated in terms of EKE /energeticheskiye kormovyye yedinitsy; energy feed units/ for cattle, sheep, hogs, horses and poultry will not have the same values. Forage is used better when the peculiarities of the animals are taken into account more fully.

Another feature of the modern method for composing rations lies in the fact that norm-setting on the basis of six factors (feed units, protein, calcium, phosphorus, common salt and carotene) is replaced by multiple factor norm-setting. What this accomplishes is clearly revealed by an experiment carried out by scientists at the Leningrad Agricultural Institute and specialists at

the Lesnoye State Breeding Plant, where cows having a productivity of 6,000 kilograms of milk annually are maintained. It turned out that when the norm-setting for feeding was based upon 24 indicators (detailed norms), the milk yields increased by 10.7 percent compared to a control group in which use was made only of the former six indicators. The physiological condition of the animals in the experimental group was also better. Moreover, success was achieved in balancing the ration in terms of all of the norms by increasing the proportion of high quality hay, changing the ratio of succulent feed in favor of root crops and introducing a complete mineral-vitamin additive while decreasing the amount of concentrates.

Generally speaking, no advantage is gained from issuing an excessive amount of concentrates to the cows. At this same Lesnoye Breeding Plant, even during the second half of the 1970's, an average annual milk yield of 6,000 kilograms was obtained for the herd. In the interest of raising the productivity still further, the decision was made to provide more concentrates. They began expending 473 grams per kilogram of milk. At the same time, the proportion of hay and succulent and green feed was lowered. The results were disturbing: the health of the animals deteriorated, herd reproduction work declined and ketosis appeared in the cows. Many highly productive champions disappeared from the herd. The milk yields began to fall rapidly. It was not easy to counter this misfortune. The type of feeding had to be changed and the herd normalized. And last year the Lesnoye Breeding Plant obtained 6,167 kilograms of milk from each of 750 cows, expending 320 grams of concentrates per kilogram of milk -- one third less than earlier.

The modern norms take into account the cow requirements for energy, feed units, dry substance, crude and digestible protein, carbohydrates (starch, sugar), crude cellulose, crude fat, common salt, calcium, phosphorus, magnesium, potassium, sulphur, iron, copper, zinc, cobalt, manganese, iodine, carotene and vitamins D and E -- all 24 indicators. In the new norms the cow requirements for energy are increased by 4-6 percent and dry cows with milk yields of 4,000-5,000 kilograms -- by 10 percent. Conversely, the protein norms are lowered by 10-12 percent, but with a mandatory balance in the rations in terms of all nutritional elements and in the high quality of the feed. This will make it possible to expend this extremely scarce protein in a more economic manner.

In accordance with the new norms, the proportion of green feed in the annual ration structure for dairy cows will be high. Thus, for a milk yield of 3,000-3,500 kilograms of milk annually in the nonchernozem zone the proportion of such feed must be not less than 30 percent. Moreover, it is recommended that pasture maintenance be employed as much as possible.

The optimum norms for supplying concentrated feed have been defined. For an annual yield of 3,000 kilograms, not more than 210-222 grams should be supplied per kilogram of milk, for a milk yield of 4,000 kilograms -- 250-265 and 5,000 kilograms -- 330-345 grams. When use is made of high quality coarse, succulent and green feed and also full value mixed feeds, these norms can be lowered by 10-12 percent.

Five years of testing the new norms at the Dubrovitsy Experimental Farm of VIZh /All-Union Scientific Research Institute of Livestock Breeding/ have

underscored their high effectiveness. The annual milk yields for the herd as a whole reached 5,000 kilograms and in 1983 5,527 kilograms of milk were obtained from a cow.

The detailing of feeding norms for the animals will make it possible to use the feed resources in a more efficient manner, it will raise the productivity of the livestock and the return on the feed and it will improve the quality of the milk, meat and other animal husbandry products. Computations indicate that the introduction of new norms for just 6 million head of the black-variegated strain will make it possible to obtain 1.4 million additional tons of milk.

The new feeding norms are being introduced into hog raising operations. This will promote not only an increase in the productivity of the hogs but also more thrifty consumption of forage. Thus the old feeding norms for pregnant sows were raised 20-30 percent above the requirements and they caused adiposity in the animals. At the complex of the Sovkhoz-Combine imeni 60-Letiya BSSR (Minsk Oblast), a savings of 74 kilograms of mixed feed per sow was achieved without causing any harm to the health or productivity of the animals. In the process the fertility of the animals was raised to 11.6 suckling pigs per farrowing.

Feeding norms have been developed for the very first time for young pigs which replace the former plans for raising them. This is especially important with regard to the early weaning of young animals. The norms for growing hogs and those undergoing fattening regimes have been calculated for obtaining daily weight increases of 500, 600 and 700 grams during the entire period. The norms for the hog requirements for protein, amino acids and cellulose have been defined.

In addition to the new hog feeding norms being approved at a number of farms in the Moscow region, they were checked during competitive testing and compared against norms developed by specialists attached to the Central Soybean Plant (U.S.A.). Our norms turned out to be better -- the average daily weight increase in the animals throughout the period of the experiment reached 862 and during the last 45 days of fattening -- 1,040 grams. Moreover, only 3.24 feed units were consumed per kilogram of weight increase.

The plans call for the new norms to be fed to all hog groups together with concentrates of mixed silage, root crops or fodder melon crops (from 5 to 35 percent of the ration), grass meal (from 2 to 10 percent) and green feed (from 5 to 25 percent). Such extensive use of non-grain feed provides the ration with protein that is of full-value in terms of its amino acid structure and also with carotene.

The farms are successfully employing these recommendations. Many fine examples could be cited. Permit me to mention one -- the Ventsy-Zarya Breeding Sovkhoz in Krasnodar Kray. Here alfalfa meal, a paste obtained from green feed and gourds are added to the rations for all of the hog groups. Succulent feed provides approximately 18 percent of the nutritional value in the annual ration.

Obviously the new norms are to be used for high quality feed containing definite quantities of all of the required substances and energy. Only if this is done will it be possible to obtain the appropriate productivity from the animals.

The new norms have been approved by the Scientific-Technical Council of the USSR Minsel'khos /Ministry of Agriculture/ and have been recommended for production operations. They have been published in a separate book as an official manual.

7026

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LIVESTOCK FEED PROCUREMENT

OIL SEED PRODUCTION LAGS; INCREASED RAPE OUTPUT CALLED FOR

Moscow SEL'SKAYA ZHIZN' in Russian 6 May 84 p 2

[Article by N. Osychkin, agronomist: "A Slow Start on an Urgent Theme"]

[Text] In order to supplement vegetable oil and feed protein resources, the Food Program calls for considerable increases in the production of rape and colza [Brassica rapa oleifera]. Some kolkhozes and sovkhoses are having successes in this area. Concurrently, however, there has been extensive lagging behind targets. It is the duty of APK workers to eliminate shortcomings along the way to raising and processing rape seed and to sharply increase the production of this valuable vegetable oil.

The press has written much about the great merits of the rape plant -- a high yielding oil and feed crop. Throughout the world it has been given a "green light." The Soviet Union has also gained experience in rape growing. Progressive farms in Gorodenkovskiy, Bogorodchanskiy, Rogatinskiy and Snyatynskiy rayons in Ivano-Frankovsk Oblast obtain 25-30 quintals of seed and 300-350 quintals of green fodder per hectare. Great successes have been attained by Lipetsk farmers. Last year they raised 3,200 hectares of rape, each of which yielded 17.8 quintals. In Estonia the Vyrus Kolkhoz collected 20.2 centners of seed per hectare, the Lobanovskoye Experimental Farm in Perm Oblast -- 28.8 quintals and the Chebarkul'skiy Sovkhoz in Chelyabinsk Oblast gathered 29 quintals per hectare. Good yields were also obtained by a number of farms in Omsk, Kurgan, Moscow and other oblasts.

As can be seen, this valuable crop has a very broad geographic distribution. It is well adapted to the climates in the Ukraine, Baltic, Volga region, Siberia, the Urals and Kazakhstan. The boundary for colza and spring rape is somewhat north of the zone for sunflowers and soybeans. This is evidence of the still unutilized huge potentials for increasing its production for use as an oil crop and animal feed protein. In no area do these two crops compete with sunflowers and soybeans. On the contrary, they supplement them agronomically and economically.

Taking natural, economic and organizational factors into consideration, it was decided to considerably expand the country's production of rape. The Food Program

states: "In order to increase vegetable oil resources, during the 11th Five Year Plan rape production will be introduced in the western oblasts of the Ukraine, in Belorussia, the Baltic republics, in the Central and Central-Chernozem regions of the RSFSR, the Volga region, the Ukraine, Siberia and northern Kazakhstan. By 1985 gross harvests of rapeseed will reach 500,000 tons and by 1990, about 1.5 million tons. Industrial methods for raising oil crops will be introduced."

This is the third year in the implementation of the Food Program. What has been done on one of its most important goals -- increasing the production of rapeseed and vegetable oil? The USSR Ministry of Agriculture reports that there is work under way to master this crop's production. Its production zones have been determined and industrial technology and seed raising systems selected. Seventeen varieties of rape and colza have been regionalized and the seed shortage eliminated.

It seems that the matter is moving forward. However, the movement is very slow. Last year, according to data from the USSR TsSU [Central Statistical Administration], rapeseed was raised for oil on only 144,000 hectares, its gross harvest was only 69,000 tons. The state procured only 12,500 tons, or 25 percent of the plan. Very little oil was produced.

There are many reasons for this situation. They include low agrotechnical standards, the lack of specialized machinery, herbicides, fungicides and fertilizer. In short, not everything is taken seriously yet. Using general purpose machines it is, of course, more difficult to perform agrotechnical operations meeting the requirements for the crop. However, the regions and farms mentioned above use the same equipment and plant protection agents and obtain yields meeting world standards. This means that the problem is not so much one of material technical supplies, but the local attitude of managers and specialists at kolkhozes, sovkhoses and agricultural organs.

It must be acknowledged that oilseed gross harvests are still attained through extensive methods -- expansion in the crop area -- rather than through increased yields. In the Ukraine yields are only 10-11 quintals per hectare, in the Russian Federation -- 3-5 and in Kazakhstan, only 1.5 quintals. Thus, one may say that yields are the result of violations in technological discipline for raising this crop. In many areas rape follows poor predecessors in the crop rotation pattern. The lack of concentrated plantings prevents the complete use of scientific and technical achievements. In Ternopol Oblast an average of 12 hectares per farm are devoted to this crop, in Tomsk Oblast the figure is 5 hectares. It is no accident that last year the yields on farms in Volyn, Lvov and Ternopol oblasts hardly reached 10 quintals per hectare, three fold lower than for progressive farms in Ivano-Frankovsk Oblast.

O. P. Stechishin, chairman of the "Kommunist" Kolkhoz in Ternopol Oblast, bitterly recalled: "Yes, what could they be, when we planted rape late, on steep slopes, without applying fertilizer. We are ashamed of the five quintal yields we obtained. We are now thinking about how to correct this situation."

This situation must be corrected in many oblasts in the Ukraine which have permitted large lags in the production of rapeseed for oil. This is well

understood at Minsel'khoz [Ministry of Agriculture] and other republic organs. However, when it comes to talking specifically about this year's planted area and harvests and about meeting the Food Program's targets-- obtaining 210,000-230,000 tons of oilseeds in the next five-year plan, there are all sorts of reservations, and "weighty" reasons and difficulties cited. In order to find the area, it is said to be essential to reexamine the cropping structure, reducing the amount devoted to feed crops, something which is impossible. Of course, some sort of changes are required, but they will bring nothing but good. After all, it is economically advantageous to raise rape. The Kolkhoz imeni Gor'kiy in Kozovskiy Rayon, Ternopol Oblast had a yield of 20 quintals per hectare. From each hectare it obtained 6-7 quintals of oil and about 1 ton of excellent protein cake. Each hectare provided 1,000 rubles of profit.

M. A. Dorosh, the kolkhoz chairman, stated: "Rapeseed did not weaken our feed base, but strengthened it. The oil is essentially free."

This is convincing evidence of the groundlessness of arguments concerning some sort of insurmountable difficulties standing in the way of rapeseed growing. There are in fact problems, but these have to do with underestimation of the crop, a desire to work in the old ways and to raise what is easiest. Isn't this the reason why from some oblasts in Kazakhstan, the RSFSR and the Ukraine voices are heard calling for reductions or complete elimination of oilseed targets?

The USSR Council of Ministers Presidium's Commission on Problems of the APK has condemned this practice and demanded that local organs unconditionally meet the targets for increasing vegetable oil production and satisfy the public's requirements for it. It is important to have an immediate general review of the situation with regards to the mastery of rape growing at kolkhozes and sovkhoses with a view to increasing this crop's production to the amounts foreseen by the USSR Food Program.

Specific farms and regions should be designated for raising rape for seed, using all reserves of non-euricic acid and low glucosinolate varieties. A complex of measures should be implemented to improve agrotechnical standards and to use industrial technologies. There should be priority deliveries of the necessary equipment, fertilizers and pesticides using allocated funds. It is already necessary to prepare harvesting equipment and material-technical bases for seed drying, preparing, storage and processing at farms, grain receiving enterprises and oil plants.

Rape growing farms are hoping that Goskomsel'khoztekhnika will supply them with industrial technology, including USMK-5.4 and KShP-8 cultivators, OPSh-15 sprayers, SZG-3.6 drills, PKK-5 attachments for grain combines, SP-10 seed cleaning attachments, KOS-0.5 driers and other machinery. Minsel'khoz mash [Ministry of Tractor and Agricultural Machine Building] should accelerate the development and production of special equipment: precision pneumatic-mechanical grain drills, fertilizer spreaders and improved attachments and machinery for harvesting and processing oilseeds. Enterprises of the Ministry of Mineral Fertilizer Production should finally master the production of effective treflan, lasso and lontrene type herbicides and insecticides-fungicides in volumes assuring the protection of rape crops throughout the entire area devoted to them.

The problem of oilseed procurement and processing is becoming very serious. During the development of the "Raps" [Rape plant] program the leaders of the USSR Minzag [Ministry of Procurement] and the USSR Ministry of the Food Industry promised that their enterprises would be able to promptly receive, store and process the increased production of seed. However, this was not the case. Farm managers had very trying experiences even with the insignificant quantities of seed obtained during these years. Last year the Yakovskiy Sovkhoz in Gorkiy Oblast raised a fairly good oilseed crop, but 70 tons of it is lying uselessly in the storage area. The Leninskiy Put' Kolkhoz in Semenovskiy Rayon does not know where to sell more than 20 tons.

"On other farms the picture is the same." T. Pletnev, deputy chief of Gorkiy Agricultural Administration, told us. "We have repeatedly brought this problem to RSFSR Minzag and the RSFSR Ministry of Agriculture, but they say that they are not involved in the procurement of rapeseed. Go where you want. There are no processing enterprises in our oblast, it's as if the seed were thrown away. Belief in this plant has declined at kolkhozes and sovkhozes. The beginning was better...."

That's it! They didn't succeed in making a go of a good thing, but only in moving it a bit. Confusion in procurement work is the result of deficiencies in planning, lagging in the processing base and the loss of a feeling of responsibility among those entrusted with providing a comprehensive solution to these problems. Some enterprising managers look for solutions on the spot. In Lipetsk Oblast they have set up the production of special compact presses for extracting oil at farms; they have also solved the sales problem. Ten oil pressing facilities are in operation in Ivano-Frankovsk Oblast and 11 in Ternopol Oblast. Last year in Ternopol Oblast, the facility at the Kolkhoz imeni Suvorov, the chairman is S. P. Drapatyy, processed 3,000 quintals of rapeseed. In all, the oblast supplied customers with 5,000 quintals of oil.

In short, if the desire is there, some managers find the ways and means for increasing the production of this valuable food product, while others find reasons for inaction and a third group considers the local production of rapeseed oil to be an unnecessary fancy, from which, they say, nothing will follow. We will not enter into this dispute. The population needs food today and even more tomorrow. While the processing industry is still weak, many means could be used to squeeze oil from rapeseed. At the Krasnyy Gornyy Sovkhoz in Lipetsk Oblast I tasted such oil; its quality is equal to that of experimental oil from the Kuban.

All the prerequisites have now been created to strengthen farms' material interest in increasing rape production. Starting this year it is planned to give kolkhozes and sovkhozes beginning to raise this crop (for three years) a 20 per cent markup over the purchase price of commercial seed. A ton now costs 300 rubles, with the markup it will cost 360. An exchange sale has been set up for farms planting this crop: 50 kilograms of seed cake (oilseed meal) per quintal of commercial seed and 75 kilograms of varietal seed. Farms are permitted to increase the pay of workers employed in rapeseed harvest, similar to the manner for grain and other crops. Without exaggeration one can say that whoever really works on this promising crop will not turn out a loser. Its production is advantageous in all aspects.

We hope that APK workers will overcome the unsuccessful start in rapeseed production through urgent work and will worthily meet the targets of the country's Food Program.

LIVESTOCK FEED PROCUREMENT

PROBLEMS WITH FEED PREPARATION, UTILIZATION IN KAZAKHSTAN

Alma-Ata AGITATOR KAZAKHSTANA in Russian No 4, Feb 84 pp 25-26

[Article by N. Kuzatbekov, deputy director of the main administration of livestock raising of the Kazakh SSR Ministry of Agriculture: "Feed Conservation"]

[Text] The republic's livestock farmers are working now with great effort. Everywhere on farms competition has begun for the successful completion of overwintering and for the fulfillment of plans and obligations related to the sale to the state of meat, milk, eggs, wool and other products in the light of the requirements of the December 1983 Plenum of the CPSU Central Committee.

During 3 months of overwintering (October-December) in all categories of enterprises in the republic in comparison with the corresponding period for the last overwintering the production and procurement of meat increased by 126,000 tons in live weight, or by 31 percent; milk and eggs--by 12 percent. The productivity of cows increased by 22 kilograms of milk; the average delivery weight of cattle supplied by the enterprises of the meat industry increased by 8 kilograms, of hogs--by 6 kilograms and of sheep--by 2 kilograms. During this same time 8,300 more calves were produced and 48,900 more piglets.

All of this facilitated the successful fulfillment of 1983 plan indicators on the sale to the state of meat, eggs and wool with the simultaneous growth in the size of the public herd. A good example is being provided by the initiators of republic competition for the successful completion of overwintering--the livestock farmers of Ural Oblast.

During the current overwintering period in our republic there were 100,000 head of cattle more than last year. Feed reserves also surpass last year's levels. Hay stockpiles are 22 percent greater, haylage--36 percent greater and straw--13 percent greater. For all feed there are 100 feed units more per standard head of cattle than last year.

However, the existing stockpiles of feed should not make anyone placid. There remain many days until summer pastures. There is a great deal of responsible work before us--the mass breeding of animals, milking of cows and fattening of livestock are beginning. This means that every kilogram of feed must be valued.

In many enterprises this is done. For example, in the Alekseyevskoye Rayspetsob'yedineniye [Rayon specialized association] for Raising and Fattening Cattle of Tselinograd Oblast the brigades that care for cattle receive feed strictly according to limiting cards which indicate the feeding norms per day and for the month as a whole. Precise controls over the movement of feed have been instituted here. In the course of delivery from warehouses to feed shops and from there to feeding platforms it is mandatory to weigh feed. However, in the enterprises of Dzhezkazgan, North Kazakhstan, Karaganda, East Kazakhstan and Turgay oblasts effective controls over the efficient use of feed have not been organized, overconsumption is tolerated and this has a negative effect on the course of overwintering of livestock.

A mandatory condition for the efficient utilization of feed involves its careful preparation. Good work in the feed shop enables us to utilize feed one-fourth better and to increase its nutritive value. At the present time there are over 2,700 feed shops working on livestock raising farms; each day they prepare over 53,000 tons of feed. In the course of 3 months 1.4 million tons of straw were prepared, including 216,000 tons utilizing thermochemical methods.

Extensive work to prepare feed is being done by the enterprises of Tselinograd, Alma-Ata and Chimkent oblasts, where 40-80 percent of the feed is fed in the form of feed mixtures. In these oblasts all of the existing feed shops are included full-capacity operations.

Practical experience shows that the greatest effect is achieved under conditions in which feed preparation takes place by the flow method on a large scale. Thus, in the 30 Let Kazakh SSR Kolkhoz of Pavlodar Oblast thanks to this it was possible to curtail the expenditure of grain forage. Twenty five percent of the ration of hogs consists of non-grain feed. In the kolkhoz there is a feed shop which produces 96 tons of semi-liquid feed mixtures daily. The raw material for them by weight consists of 40 percent mixed silage, which includes corn and vegetable and grain waste products; another 25 percent consists of milk whey and skim milk and wastes from the meat and fish industries. This type of ration is economical--in fattening hogs fewer than 6 feed units are expended per kilogram of weight gain.

In the republic, in addition to the traditional methods of preparing coarse feeding using calcined and caustic soda and liming, recently there has been a more extensive use of other methods to prepare straw which noticeably improve the value of this feed. In the Leninskiy Sovkhoz of North Kazakhstan Oblast, Fedorovskiy Sovkhoz of Kustanay Oblast and Chapayevskiy Sovkhoz of East Kazakhstan Oblast there are shops for the production of fermented-yeast straw. The essence of the method used here consists of grinding the straw and steaming it in mixers with the introduction of enzymes to rapidly decompose cellulose and to enrich straw. This enables us to achieve an average daily weight gain in calves that is 15-20 percent higher as compared with fattening with rations using straw that has not been prepared.

Today in the Alma-Atinskiy Tobacco Sovkhoz of Alma-Ata Oblast about 11 kilograms of milk are produced daily per cow. This is greatly facilitated by the

effective work of the feed shop, which prepares 70 tons of yeast-enriched coarse feeds daily.

In the enterprises of Pavlodar Oblast there are 146 yeast shops in which yeast was added to 46,000 tons of concentrated feed during 3 months of the overwintering period.

At the same time in Aktyubinsk, Turgay and East Kazakhstan oblasts the proportion of prepared feed is very low in livestock rations. Here in many enterprises feed is fed without preliminary preparations and mismanagement is tolerated. For example, in the Oktyabr'skiy Sovkhoz of East Kazakhstan Oblast hay is fed to sheep directly from the field. In the Ul'yanovsk Rayspetskhoz-ob'yedineniye of Karaganda Oblast even with the availability of a feed shop it is given to livestock without being ground and a significant portion of it is mixed with manure. Until recently 53 feed shops in Semipalatinsk Oblast, 41 in Kustanay and 34 in Karaganda oblasts did not join in work.

An efficient and rational use of feed and its careful preparation--these are the bases for the successful completion of the overwintering of livestock. It is necessary that strict controls be instituted everywhere over the expenditure of feed to make sure that it is subject to preliminary processing and that it is released according to weight and established limits.

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LIVESTOCK

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DEPUTY MINISTER ON PROBLEMS, PROSPECTS OF LIVESTOCK SECTOR

Moscow ZHIVOTNOVODSTVO in Russian No 4, Apr 84 pp 2-3

/Article by L.N. Kuznetsov, USSR deputy minister of agriculture: "Maximum Use of Reserves"/

/Text/ The measures adopted by the party and government for developing the agroindustrial complex have had a positive effect on the status of affairs in all branches of agriculture. Compared to 1982, the annual increase in agricultural output in 1983 was 6.4 billion rubles. Positive achievements have been realized in animal husbandry operations.

The kolkhozes and sovkhoses have achieved noticeable improvements in the productivity of the animals. The average annual milk yield per cow was 2,364 kilograms, or 162 kilograms more than the figure for 1982. The average weight of one head of cattle sold to the state increased by 11 kilograms and hogs -- by 4 kilograms. The average weight of cattle sold to the state for meat purposes by kolkhozes and sovkhoses in the Estonian SSR was 430 kilograms, the Lithuanian SSR -- 425 kilograms, Latvian SSR -- 398 kilograms, Moldavian SSR -- 382 kilograms and the Turkmen SSR -- 380 kilograms. The farms of Belorussia supplied the state with hogs the average weight of which was 117 kilograms, Estonian SSR and Lithuanian SSR -- 106 kilograms and the RSFSR -- 105 kilograms. This represents the optimum weight for the pork that is in high demand by the population. Last year the purchases of young cattle stock characterized by raised weight conditions, for which a bonus is added on to the purchase price, increased considerably.

In a majority of the union republics, improvements were achieved in the work of reproducing the herd. More calves, young pigs and lambs were obtained on the farms. Deserving of special mention is the purposeful and daily work being carried out in this regard by the agricultural organs and by the leaders and specialists at kolkhozes and sovkhoses in the Moldavian SSR, the Lithuanian SSR and the Ukrainian SSR, where stable and high yields of young stock are being obtained.

The livestock breeders achieved successes in 1983 beyond any doubt and yet these successes leave no room for indifference or complacency. Many kolkhozes and sovkhoses, especially in Kazakhstan, Georgia and Azerbaijan, did not fulfill their plans last year for selling meat and milk to the state.

The task at the present time consists of consolidating the successes achieved during 1983, ensuring a further increase in the productivity of the livestock and poultry and increasing the production of goods and improving the supply of meat and milk for the population mainly through intensification of the branch. Since the number of cows at the kolkhozes and sovkhozes has remained essentially at the 1983 level, the entire increase in the gross milk yield and in milk procurements must be achieved only by raising the milk yields. A requirement also exists for raising the weight conditions of the cattle turned over for meat purposes and also for raising the live weight of hogs at a number of kolkhozes and sovkhozes in the Ukraine, Kazakhstan, Georgia, Armenia and Latvia.

Poor use is still being made of the reserves that are available for increasing the production of mutton on farms in the Crimean, Kherson, Odessa, Astrakhan, Rostov, Volgograd, Saratov and a number of other oblasts, where the sheep are delivered to meat combines at an average weight of 25-30 kilograms. A great amount of work still remains to be carried out in connection with improving the fattening of sheep in Kazakhstan, Georgia, Azerbaijan, Moldavia, Kirghizia and Tajikistan.

The livestock breeders are confronted by great tasks during 1984, with one such priority task being that of improving the wintering period for the livestock without losses or a reduction in the productivity of the animals and with the animals being converted over to pasture maintenance in a timely manner.

In connection with the successful completion of the livestock wintering operations, great importance is attached to the efficient use of feed. All possible measures must be taken to ensure that during the remaining period of indoor maintenance for the animals improvements are realized in the preparation of feed for feeding to them and that extensive use is made for this purpose of all of the methods achieved for raising their nutritional value: milling, steaming, chemical treatment of straw, preparation of full-ration feed mixtures and enrichment with mineral substances, vitamins and additives from micro-biological and chemical synthesis.

The continuous operation of the feed preparation shops and inter-farm, kolkhoz and sovkhoz mixed feed enterprises must be an object of daily concern for the agricultural organs and all livestock breeders and machine operators. The farms must be provided with a great amount of assistance in this regard by the associations of sel'khoztekhnika and also by the supporting industrial enterprises.

The experience of recent months once again confirms the fact that in those areas where the preparation of feed for feeding to the animals is well organized, where there is a high level of organization and discipline and where constant control has been established over the operations of the farms -- the farms achieve a high level of productivity in their animals and increases in the production and sale to the state of meat, milk and other products. The livestock breeders in Belorussia and in Leningrad, Moscow, Kirovograd, Chernigov, Khmel'nitskiy, Ternopol, Dzhabul and many other oblasts are confidently increasing their rates of growth for output production.

Special importance is being attached at the present time to the efficient and effective use of concentrated feeds. The task of the agricultural organs and the kolkhoz and sovkhos leaders and specialists consists of economizing to the maximum possible degree in the use of grain forage and utilizing each kilogram of grain in a manner so as to produce a maximum return.

In addition to improving the organization of work concerned with preparing feed for feeding to the animals, importance is also being attached to utilizing all available opportunities for searching for additional feed resources. An important reserve in the food balance is that of food waste products obtained from public catering enterprises and the population and also the waste products obtained from the industrial processing of agricultural raw materials at enterprises of the sugar, alcohol and meat and dairy industries. The experience of many kolkhozes and sovkhos in Leningrad, Moscow and other oblasts has shown that food scraps can be used in place of 50 percent of the concentrated feed being used in the rations for hogs undergoing fattening regimes. Unfortunately, these reserves for augmenting the feed resources are still not being employed adequately. In particular, great opportunities for increasing the collection of food scraps exist in Alma-Ata, Tashkent, Frunze and many other large cities and industrial centers. More complete use of the available reserves for augmenting the feed resources -- this is an important task confronting workers attached to the rural and housing-municipal economies and the leaders of public catering organizations and enterprises.

The kolkhoz and sovkhos leaders and specialists who are engaged in maintaining livestock at distant pastures are troubled by many concerns during the transitional period. In a number of oblasts in Kazakhstan, Uzbekistan, Kirghizia and Turkmenia the wintering operations were carried out under complicated weather conditions. Last year the grass stand did not satisfy the requirements of the animals and a considerable portion of them were not adequately nourished. The agricultural organs and the leaders of farms expended a great amount of effort in hauling feed to the pastures, equipping facilities for the animals, maintaining constant contact with the tracts of distant pasture cattle raising and improving supply and domestic services for the shepherd brigades.

Other work of equal importance must also be carried out during this period. The task of preparing the animals for pasture maintenance should not be put off until tomorrow. A high level of organization in transferring the cattle over to pasture maintenance can serve to provide tens and even hundreds of thousands of additional tons of milk and meat. Analysis testifies to the fact that the kolkhozes and sovkhos obtain up to 54 percent of their annual milk yield during the 5 month period of pasture maintenance. Moreover, this milk is of higher quality and involves fewer expenditures.

The kolkhoz and sovkhos leaders and specialists must organize the green production line taking local conditions into account and they must apply a mineral fertilizer top dressing to the pastures and forage crops in the interest of utilizing them as early as possible. The forage crops must be distributed in a rational manner, the watering of non-irrigated sowings must be expanded using local drainage and a considerable increase is called for in the production of coarse, succulent and green feeds.

Prior to their being moved out to pasture, the animals should be inspected and a determination made as to the number and sizes of the herds and their disposition out on the pasture tracts. In addition, the brigades and teams should be staffed with experienced and conscientious workers. Prior to the commencement of the pasture maintenance period, work should be completed on the repair and construction of summer camps and sites and watering stations installed.

Special concern should be displayed during the summer period for reproduction of the herd, fine conditions should be established for the maintenance of replacement young stock and full use should be made of green feed for feeding to them and especially grazing on natural feed lands.

The agricultural organs and the kolkhoz and sovkhos specialists in Kazakhstan, the republics of Central Asia and the Trans-Caucasus must devote special attention to obtaining offspring and to the raising of replacement heifers obtained from imported pedigree cows.

At many kolkhozes and sovkhoses, the cattle are not being fed adequately prior to being turned over for meat purposes. Last year a considerable number of young cattle stock were delivered to the meat combines at an average weight of less than 250 kilograms. The situation was even worse with regard to cattle slaughtered for the purpose of satisfying intra-farm needs. There are still many kolkhozes and sovkhoses where the live weight of cattle slaughtered for this purpose is 150-160 kilograms. Hogs and sheep are being slaughtered at low weights. All of this results in losses amounting to thousands of tons of meat. Certainly, the organization of cattle fattening operations is dependent upon improvements being realized in the feeding of the animals. Thus we emphasize once again that a chief concern of the farm specialists and leaders and the agricultural organs in the future will continue to be that of strengthening the feed base to the maximum possible degree. In organizing full-value feeding for the animals, special importance is attached to balancing the rations in terms of protein. A low level of digestible protein in the feed is adversely affecting the productivity of the livestock and poultry and causing an overexpenditure of feed. The shortfall in output often reaches 20-25 percent, with the feed expenditures increasing by a factor of 1.3-1.5.

The feed protein problem is complicated and requires a comprehensive approach. An increase must be achieved in the production of protein of animal, microbiological or synthetic origin of the meat and dairy, fishing, microbiological or chemical industry. But first of all a requirement exists for making maximum use of the potential for producing plant protein through an expansion of the sowings, raising the cropping power for peas, soybeans and other pulse crops, breeding forage grain crops having a raised protein content and also by improving the technologies for procuring and storing feed such that protein losses are eliminated.

In addition to the task of increasing the production and improving the quality of feed, a great amount of work must be carried out in connection with improving the organization of breeding operations and, in particular, creating our own base for the breeding of cattle in the republics of Central Asia, the Trans-Caucasus, Kazakhstan, areas which in recent years imported large numbers of

highly productive pedigree cattle. Today a requirement exists for utilizing these animals in an effective manner.

The private plots of the population are still playing a substantial role in the overall balance for the production of meat, milk and other animal husbandry products. It is sufficient to state that during 1983 the plots of kolkhoz members and manual and office workers produced 28.6 percent of the overall amount of meat produced throughout the country, 28.9 percent of the milk and 29.7 percent of the eggs. Thus in the future the agricultural organs and the kolkhoz and sovkhoz leaders must provide the population with assistance in acquiring young cattle and poultry stock, they must supply the kolkhoz members and sovkhoz workers with tracts of haying and pasture land as well as feed and they must make zooveterinary services available for the livestock being maintained on a private basis by the population.

Large reserves exist and are available for raising the efficiency of all branches of animal husbandry -- the extensive use of leading experience in the various areas, constant improvements in the production technology, especially the production line-departmental system for output production, the introduction of double-shift operations on the farms on an extensive scale, the use of collective contracts and maximum improvements in discipline and responsibility at all levels of the agroindustrial complex. The socialist competition which has been launched in the rural areas for ahead-of-schedule fulfillment of the tasks for the fourth year of the five-year plan, with regard to increasing the production of animal husbandry products and also the all-union review of labor organization and the culture of production in animal husbandry call for these reserves to be placed in operation.

At the present time, the animal husbandry workers on the farms and complexes are working in an atmosphere of great political enthusiasm, as a result of the decisions handed down during the December (1983) and the special February (1984) plenums of the CPSU Central Committee. The movement aimed at increasing the milk yields and the number of cattle, raising labor productivity and lowering production costs has truly become national in scope. This serves as a guarantee for our successes.

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ESTONIAN MEAT, DAIRY MINISTER ON APK PROBLEMS, POTENTIAL

Tallinn SOVETSKAYA ESTONIA in Russian 4 Apr 84 p 2

[Article by A. Essenson, Minister of EstSSR Meat and Dairy Industry: "When Deliveries Increase," Under the rubric: "The Food Program: Problems, Solutions"]

[Text] Since rayon agro-industrial associations were set up, closer co-operation has developed between industrial enterprises, and kolkhozes and sovkhozes. This shows up in a noticeable increase in work efficiency. Thus, in 1983 republic agriculture successfully delivered cattle, fowl and milk to the processing industry. Here are some figures: 234,300 tons of cattle and fowl were sold compared with 198,400 tons in 1982, or 18.1 percent more; milk--1,142,300 tons compared with 1,017,900 tons in 1982, or 12.2 percent more; all this made it possible to raise industrial output as well.

Effort toward more complete, coordinated, efficient and economical utilization of meat and dairy resources continues in the enterprises and organizations of our industry. Techniques for processing bones and other protein sources have been developed and licensed. These production techniques and the derived products (protein, dry bouillon) have now been approved for use throughout the union.

As a result of the above-mentioned measures, the Ministry of the Meat and Dairy Industry has saved 10,000 tons of meat in the past year that was used to produce more meat products. In the republic's dairy industry, utilization of raw material by-products such as skim milk, buttermilk and whey has increased in 1983 compared to 1982.

The Ministry enterprises, in seeking to expand variety and to satisfy public demand more fully, have mastered production of twenty-one new types of products including twelve kinds of processed meats and nine dairy products. It is enough to mention bouillon concentrate, "Uudis" sausages, liver sausage, "for the table," "Narva" blood sausage, etc.

The volume of top-grade and improved-quality production increased by 13.4 percent over the past year, amounting to 37.8 percent of the total volume.

Despite these positive results, the work of the Republic's Ministry of the Meat and Dairy Industry has been repeatedly and justly criticized. The basic

complaints are related to the shortage of processing and refrigerating facilities at the industry's enterprises: this lack was especially clearly demonstrated as a result of the successful growth in agricultural production. However, some things did get done in time.

During the last eight years the following facilities have been built and put into operation: the new Vykhma Meat Combine, a cannery at the Valga Meat Canning Combine, a refrigeration facility at the Saaremaa Production Association, and the new Payde dairy product combine. Reconstruction with an increase in production capacities has been completed at the Pyarnu Meat Combine, Pylva and Vyru dairy product combines, the Kozt and Rapla shops of the Tallinn combine, and also in the Yygeva shop of the Tartu Dairy Product Combine.

Construction has been started of a new Pyarnu dairy product combine and a meat processing shop at the Tartu Meat Combine: remodeling is proceeding at the Tallinn Dairy Product Combine and the Vyayke-Maar'ya cheese factory in the Rakvere Dairy Product Combine.

In Tartu, construction of a new vocational and technical school is being completed, where specialists will be trained for Ministry enterprises.

Still ahead is the construction of a new Rakvere Meat Combine and a Narva meat-and-dairy plant. The reconstruction of the Tallinn meat-canning combine, the Saaremaa production association and other industry project is continuing.

The Ministry has developed and is implementing a sophisticated program for raising labor productivity during 1981-1985. New technique and equipment are being successfully introduced in connection with this program. A number of new enterprises have achieved comparatively high results with respect to providing workers with mechanized equipment; --for example, the Pylva, Payde and Vyru dairy product combines.

Still, for the Ministry overall, the number of workers engaged in heavy labor and work under hazardous conditions still stands at 32.7 percent. This, of course, is unsatisfactory.

It is necessary to note that the USSR Minlegpishchemash [Ministry of Machine-building for Light and Food Industries] manufactures little mechanical equipment for meat and milk processing. Moreover, the level of some of its lines, installations, automated units and other machines lags considerably behind modern requirements. The demand for spare parts is systematically not satisfied. Not enough automated equipment using microprocessing and computer technology, manipulators and robots, is available; modernization of many mass-produced assemblies and machines for the meat and dairy industry is acutely needed. There is a lack of small-scale mechanical equipment.

At the present time the Ministry has presented the EstSSR Soviet of Ministers and the republic's Gosplan with a list of necessary supplementary measures for eliminating the lagging of processing facilities, above all that in the meat industry.

Other unsolved problems also exist, which are being studied by agricultural workers and the administrators of the EstSSR Ministries of Procurement and Minmyasomolprom [Meat and Dairy Industry]. Here is a typical example:

For the meat and dairy industry - as for any sector - regular, well-scheduled delivery of raw materials and the fulfillment of contracted obligations by suppliers is very important. Unfortunately, there still are situations when some RAPO's [Rayon Agricultural Production Association] (Payde, Khar'yu, Pylva, Pyarnu) do not conform to contract terms for shipping cattle to the meat combines. Thus, during the first quarter of the current year, the plan was for 51,700 tons of cattle to be procured. However, already in January and February, the meat combines were working above the capacity that had been scheduled. Under these conditions the combines should have reoriented themselves, changed their production plans, maintenance schedules, and worker vacation plans, and order additional transport, packing materials, etc. Unscheduled and irregular raw material deliveries to meat and dairy product combines interfere with normal preparation for and organization of production and cause difficulties in the sale of finished products.

At the same time the Vyru, Khaapsalu, Kingisepp and Kokhtla-Yarve RAPO's carry out their contract obligations well. This shows that regular raw material deliveries are quite feasible.

There do exist farms in the Republic (for instance, Laatre, Pydrangu and Alliku sovkhoses, Vyayke-Maar'ya and Layuze kolkhoses, the Saku Model sovkhos, and some others) where seasonal vagaries almost do not prevent uniform meat and milk sales to the government month to month.

Nevertheless, in 1983 the seasonal factor for cattle and fowl deliveries was 1.8 (that is, the ratio of maximum and minimum delivery volumes per month) and 1.75 for milk. As you see, the difference between months was very large.

It appears necessary to reduce seasonal influence on the delivery of agricultural produce and animals for processing, for example in hog-breeding, which, as is well-known, depends less on green fodders. This would help assure a more rational utilization of existing equipment and human resources. In 1983, the average live weight of one head of cattle in the republic was 437 kg; and 107 kg, correspondingly, for hogs. But because of this, the meat on the shelves is too fatty and is not in sufficiently high demand among consumers. The Estonian affiliate of the All-Union Scientific Research Institute for Study of Population Demand for Mass Consumption Goods and Trade Conditions has been entrusted with analyzing the demand for various kinds of meat, so that agriculture can correctly project production plans for various breeds of cattle.

The role of RAPO is very large in resolving social and cadre problems, including reduction of cadre turnover at our enterprises, and attracting young workers. The improvement of living conditions, guaranteeing sufficient

room in children's pre-school institutions, and organization of workers' leisure time is of great significance. These problems must be resolved jointly with our partners within the framework of the agro-industrial complex.

To stimulate better organization of labor and output of supplementary production by the ministries who are members of APK [agro-industrial complex], we consider it expedient, in allotting above-plan profits, to allow a part, say up to 20 percent, to be transferred into centralized APK and RAPO economic incentive funds. After all, they have more possibilities on a daily basis to utilize these resources than does our Ministry, for example.

The EstSSR Ministry of the Meat and Dairy Industry has operated only one year utilizing the agro-industrial complex concept. There is a great deal of work ahead to uncover existing reserves and to utilize them to carry out the Food Program as rapidly as possible. The faster we organize inter-branch cooperation, the greater will be our successes.

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LIVESTOCK

FIRST QUARTER 1984 LIVESTOCK PROGRESS, PROBLEMS REVIEWED

Moscow SEL'SKAYA ZHIZN' in Russian 24 Apr 84 p 1

[Article: "More Farm Products for the Country!"]

[Text] The country's livestock farmers are striving to increase the production and sale to the state of farm products in every way possible. They have been able to do a great deal. The winter stall overwintering period is almost at an end. The first results can be totalled. They are satisfying--in January-March meat and milk production increased by 7 percent and the sale of cattle increased in all republics except Kazakhstan. Here, whereas this indicator increased by 7 percent on the average in the country as a whole in Belorussia it increased by 13 percent, in Latvia--by 14, in Lithuania--by 28 and in Estonia--by 40 percent. Gross milk yield increased especially sharply in the Kirghiz and Belorussian SSR's--by 11 percent and in Latvia--by 12 percent.

Now it is important not only to maintain the achieved level but to achieve its further increase as well. To reach higher goals in supplying the people with meat and milk--this is the objective placed before farm workers by K. U. Chernenko. In his speech at the All-Union Economic Conference on Problems of the Agro-Industrial Complex the General Secretary of our party's central committee determined the main way to achieve this--by accelerating the intensification of agriculture and by significantly increasing the return on the potential developed in kolkhozes and sovkhozes.

This is the path that is being taken by the leaders. They are increasing production output primarily by means of the factors of intensification and by means of a growth in livestock productivity. This path enables them to more effectively utilize feed and facilities, to raise the productivity of labor of livestock farmers, to decrease the cost of production and to make farms stably profitable. How effective this path is in dairy farming, for example, can be clearly seen in the experience of Orlov, Volgograd, Saratov and Rostov oblasts, which increased milk yield in cows in January-March by 14 percent and more as compared with last year and who increased gross milk yield just as sharply. The livestock farmers of Kaliningrad Oblast increased milk yield by 25 percent without increasing the size of the dairy herd! At the present time daily milk yield and milk production in the oblast are significantly greater than last year.

But different examples also exist. In Amur Oblast there are 5,000 more cows than in the neighboring Maritime Kray. But whereas in the Maritime Kray the herd has been stabilized and all efforts are being directed at increasing its productivity, Amur livestock farmers increased the size of the herd by 4.5 percent last year with a limited feed base and the productivity of animals has dropped noticeably. While Maritime enterprises expanded milk production by 17 percent in Amur Oblast it decreased by over 3 percent; here almost 15,000 tons less of products were produced in 1 year than in the neighboring kray. This is the consequence of ignoring the stipulations of intensification. We can hardly consider correct those directors of, for example, Brest and Tselinograd enterprises who have planned to greatly increase the size of their herds and who continue to support expansion methods in the face of poor feed supplies on farms and a low productivity of cows.

The most difficult period in livestock raising has arrived. Behind us lie over 6 months of overwintering and not much time is left until this period is over. Feed has been expended and the microbe pollution of facilities has increased. On farms the mass breeding of animals is in progress, the number of young animals is increasing rapidly and they require more and more care. Under these conditions it is extremely important not to loose the pace, to move to the summer upkeep of livestock in an organized manner in order to achieve greater productivity with inexpensive green fodder and to increase production output in every way possible. We must write about this apparent truth because recent letters to the editors are sending alarming signals--in some places the directors and specialists of enterprises and the workers of party and soviet organs, reassured by the results of the last few months, have weakened their attention with regard to farms and allowed matters to drift. This can result in the most undesirable consequences. Thus, there has been a decrease in milk yield in comparison with the first quarter of last year in Uzbekistan and Armenia, Krasnoyarsk and Stavropol krays, the Kalmyk and Bashkir autonomous republics and Kurgan, Chelyabinsk, Tyumen, Omsk and several other oblasts.

Feed is the main source for intensifying livestock raising and intensification in turn enables us to more efficiently and better utilize every kilogram of forage. It has been calculated that feed resources directed at increasing the productivity of animals are utilized 1.4 times better than those allocated to increase the herd. No method of preparing forage can in this sense compare with an increase in the level and full value of feeding. Keeping strict accounts of all reserves of straw, hay and silage, allocating the best forage to cows which have recently calved, to animals being milked and to calves which are gaining weight, balancing their rations and utilizing new detailed feeding norms--these are the tasks of specialists in enterprises and agro-industrial associations. It is no less important to show concern for the organization of the green conveyor, to regulate the type and quality composition of crops and their sowing schedule so that each cow will receive sufficient green mass--no fewer than 50 kilograms per cow per day--from early spring until late fall. Summer upkeep of animals must be organized in such a way as to not decrease the labor productivity of farm workers and not to worsen their production and living conditions with the transfer of herds to pastures and grazing areas.

Good managers are already concerned about feed for the next stall-upkeep period. They are planning its production based on the complete needs of farms and the private livestock of the population and they are improving the structure of crops in order to produce higher quality forage in the needed amount. Leaders in the competition of feed producers in the Ukraine are the enterprises with high quality farming--the Ukraine Kolkhoz of Kakhovskiy Rayon, Kherson Oblast, the Kolkhoz imeni Lenin of Tomashpol'skiy Rayon, Vinnitsa Oblast and the Kolkhoz imeni Lenin of Kamensko-Bugskiy Rayon of Lvov Oblast, which produce 60-70 quintals of feed units per hectare. Grass farmers of the Buryat ASSR have begun work on meadows, having decided to procure half a million tons of hay and 215,000 tons of haylage. There are more and more such examples. RAPO [Rayon agro-industrial associations] must organize their work so that concern for feed fields becomes a leading concern in each kolkhoz and sovkhoz. First of all it is necessary to strictly observe the technology for producing feed crops and the rules for taking care of sown and natural grasses.

In thinking about future livestock raising we must in no way lose sight of the problems related to the reproduction of the herd and to preserving the young. There is something to think about here for some directors. How, for example, do the farmers of Tambov and Chita oblasts intend to fulfill their obligations concerning the sale of farm products to the state if they produce only 73 calves per every 100 cows? The directors of enterprises in Kaluga and Kursk oblasts which produced fewer than 10 piglets per sow will hardly be able to boast about success in developing hog raising. And how are we to evaluate the "efforts" of Ivanovo and Yaroslav horse breeders, who produce 17 and 14 colts respectively per 100 mares? There is one evaluation here--mismanagement. It is essential to find specific reasons for such a situation and to take active measures to eliminate them.

Intensive methods of managing livestock raising are a dependable basis for continued growth in the production and sale to the state of milk, meat and other farm products. The transition to these methods in every kolkhoz and sovkhoz and in every inter-farm enterprise means to actively implement the directives of the 26th party congress, to facilitate the successful fulfillment of the USSR Food Program and to respond in a business-like manner to the party's call, "Agricultural workers! Increase the productivity of livestock raising in every way possible, strengthen its feed base! Increase the production of meat, milk, eggs and wool!"

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LIVESTOCK

USE OF BIOTECHNOLOGY IN NONCHERNOZEM ZONE CATTLE RAISING

Kiev SIL'S'KI VISTI in Ukrainian 24 Apr 84 p 2

[Article, published under the heading "Science Aiding Production," by Candidate of Agricultural Sciences S. Perehonchuk, senior scientific worker at the Scientific Research Institute of Agriculture of the Nonchernozem Zone of the UkSSR: "Raising and Fattening Young Cattle on the Basis of Using Biotechnology"]

[Text] The party and government have assigned the task of implementing an extensive program of scientific and experimental effort in the field of biotechnology. Particular hopes are placed on biotechnology in the area of protein synthesis. This could enable us to end the acute protein deficit in feeds.

Microorganisms play an important role in resolving this problem. Scientists know that bacteria work more economically than any machines; it is necessary only to learn to utilize them.

Microorganisms promote the synthesis of protein substances from nonprotein sources of nitrogen -- urea. As a result of their activity, a large part of plant proteins is converted into readily available protein, and digestion and substance metabolism improves in the organism of livestock.

At the UkSSR Scientific Research Institute of Agriculture of the Nonchernozem Zone, a number of studies have been made under the methods supervision of Academician L. Ernst, vice-president of the All-Union Academy of Agricultural Sciences imeni Lenin. The purpose of this research was to determine what feeds with utilization of urea create the best conditions for development of microorganisms and protein synthesis. It was demonstrated that this is accomplished most efficiently with coarse feed.

Research was conducted at the All-Union Scientific Research Institute of Agricultural Microbiology on the contents of the rumen and blood of animals raised on a ration formed of coarse feed, feed concentrates, and urea. The total quantity of microorganisms in specimens of the ruminal fluid of calves was 6 times greater than that of animals which had been fed green fodder and feed concentrates.

Particularly substantial results were obtained in regard to the presence of nitrogen-fixing microorganisms. These were increased by a factor of 12.

Organization of finishing of stock on the Kolkhoz imeni Kirov in Chudnovskiy Rayon, Zhitomir Oblast, is an example of how to place biotechnology in the service of animal husbandry. This farm employs a ration in which urea is given in an amount of 40-50 grams per hundred kilograms of live weight. Each year they consume 120-150 tons of urea for this purpose.

On the basis of our recommendation, for more than 10 years now they have fattened almost 10,000 head without using green fodder. It is a known fact that if the green bulk of grasses is used for hay and haylage, we obtain almost double the economic effect.

As D. Lons'kyy, chairman of the Kolkhoz imeni Kirov, states, this makes it possible substantially to increase grain and straw production by boosting grains within the crop structure, as well as making considerably more hay and haylage.

Thus with efficient utilization, we obtain considerably more product with the same feeds.

All this has helped reduce product cost, has helped boost profitability of this branch, and has promoted a sharp decrease in consumption of feeds per unit of growth.

The kolkhoz sells to the state animals averaging 410-420 kg on the hoof, while 99 percent of the animals are finished to a higher grade. The cost per quintal of incremental growth is 105-115 rubles. Net profit each year runs from 1,500,000 to 1,700,000 rubles.

This farm has amassed certain experience in fattening calves on a ration consisting of coarse fodder and feed concentrates with utilization of urea, beginning at the age of 1 month, without feeding succulent feed and green fodder. This process was developed under the methodological guidance of All-Union Academy of Agricultural Sciences imeni Lenin Academician G. Bogdanov.

More than 30,000 calves were raised on such rations over a period of 9 years. More than 6,000 were raised the year before last, for example. The average daily weight growth increment up to the age of 5 months ran 685 grams per head, while many workers, who were assigned 140-160 animals each, are obtaining 800-900 grams or more. From 3.9 to 4.2 quintals of feed units are expended per quintal of weight growth increment.

According to current guidelines in scientific and practical animal husbandry, young stock should receive carotene-containing feeds from an early age. For this reason growing calves without giving them succulent and green feeds was previously considered out of the question. It has been established as a result of detailed research conducted by this country's leading scientific research institutes that carotene is synthesized. Carotene-synthesizing microorganisms were identified in our experimental animals. Now more extensive possibilities are opening up for utilizing nonprotein nitrogen for raising livestock.

Protecting calves and increasing their average daily weight gains is an important task in livestock raising. Raising healthy young stock means creating favorable conditions for boosting meat and milk production.

Death of young animals to epizootic murrain, especially during the first days after birth, causes animal husbandry considerable losses. Regardless of employment of all known veterinary procedures, efforts to save young calves are not always successful.

The task of adopting biological methods of treating animals have been designated. Utilization of the contents of the rumen is an important method within this domain. Introduction of these contents to calves during the first days after birth increases the survival rate of young stock and helps prevent gastrointestinal and other diseases of ruminant animals.

The importance of microorganisms, and especially Infusoria, for these animals is very considerable. More than 120 species of Infusoria are encountered in the rumen of ruminant animals. There are none at all in newborn calves. Further growth in the quantity of Infusoria involves feeding coarse fodder.

It has been established that processes of substance metabolism in the organism are linked with the vital activity of Infusoria in the paunch of cud-chewing animals. It is due to these Infusoria that a substantial portion of plant proteins are converted into readily available protein.

Work on utilizing the contents of the rumen in raising calves has been in progress for 5 years now at the UkSSR Scientific Research Institute of Agriculture of the Nonchernozem Zone, under the methodological guidance of the All-Union Academy of Agricultural Sciences imeni Lenin. Rumen contents are taken from donor animals, the feed ration of which contains coarse fodder, feed concentrates, and urea. A ration of this kind creates the most favorable conditions for development of microorganisms.

More than 1,300 calves ranging from 15 to 20 days old were taken from a large number of farms and gathered together on the Druzhba Kolkhoz in Korostenskiy Rayon, Zhitomir Oblast. The task was to save all the young stock, even those with poor survival prospects. Rumen contents were introduced three times for the purpose of disease prevention -- once every 10 days. Rumen contents were taken from donor animals by intravenous injection of an infusion of false hellebore.

Sick and growth-deficient calves were treated with rumen contents every two days, a total of from 10 to 15 times or more, in order to improve their survivability, to strengthen their organism, and to prevent death from epizootic murrain. Subsequently the desired results were achieved.

The Kolkhoz imeni Dimitrov in that same rayon decided to employ a biological method of treating calves, without utilizing antibiotics. Rumen contents were also introduced on a prophylactic basis, three times, every 10 days. After this period rumen contents were no longer introduced. Sick and growth-deficient calves received rumen contents 10-15 times or more. Only a few head of young stock died out of a herd of more than 1,500 head. Gastrointestinal and other diseases were prevented.

The Za Kommunizm Kolkhoz, which also utilizes rumen contents and urea in raising calves, last year produced an average daily weight gain per head of 784 grams.

A total of 4.28 quintals of feed units, at a cost of 134 rubles, were expended per quintal of weight gain up to the age of 8 months. In some months average daily weight gains of a kilogram were achieved. Many animals weighed 240-260 kilograms at the age of 7 months.

All three operations in Korostenskiy Rayon obtained practically identical results as regards preserving the health of young stock and obtaining high weight gains.

The kolkhozes of this rayon give all newborn calves rumen contents as a prophylactic measure on the second day after birth. Its liquid portion -- 30-40 milliliters -- is introduced from a bottle into the calf's oral cavity, while feed remnants, in the form of a ball the size of a pigeon egg, are placed on the radix linguae. All this helps prevent gastrointestinal diseases from the first days of a calf's life.

It is presently known that the administration of antibiotics to cattle causes various digestive disorders, decreases the digestibility of carbohydrates, and reduces the quantity of microorganisms. The normal quantity of microflora can be restored with the contents of the rumen. For this reason wherever antibiotics are employed, it is essential to introduce rumen contents immediately, and not less than twice at a reasonable interval.

Boosting cattle productivity due to bacterial protein is an important capability which should be placed in the service of animal husbandry.

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LIVESTOCK

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WAYS TO INCREASE MILK PRODUCTION IN WEST SIBERIA DISCUSSED

Sverdlovsk URAL'SKIYE NIVY in Russian No 12, Dec 83 pp 42-43

/Article by A. Terekhina, scientific associate at the Siberian Scientific Research Institute of Economics of Agriculture: "Dairy Husbandry in the Central Ob Area"/

/Text/ The industrial development of petroleum and gas regions in West Siberia has brought about a rapid population growth. Its rates are especially high in the Central Ob Area, which includes the Khanty-Mansiysk Autonomous Okrug with the cities of Surgut, Nizhnevartovsk, Nefteyugansk, Uray and Khanty-Mansiysk. A complex problem--meeting the needs of the population of these cities for whole milk--has arisen. During the 10th Five-Year Plan, as compared with the 9th Five-Year Plan, its gross production in the okrug rose by only 9 percent. At the same time, milk production increased only during the first 3 years. Its unstable nature is the consequence of the considerable fluctuations in the productivity of cows, which, in turn, is due to the weak feed base. On the average, about 29 quintals of feed units (counting imported feed) per cow were expended annually from 1976 through 1980.

The flood plains of the Ob and Irtysh are the sources of coarse feed in the Central Ob Area. Their prolonged inundation in spring and at the beginning of summer and the big penetration by channels, oxbow lakes and lakes prevent this land from being extensively drawn into the agricultural turnover. Of all hayfields and pastures water ones comprise 51 percent, swamped ones, 32 percent and dry ones, only 17 percent. The productivity of meadows does not exceed 9 to 10 quintals per hectare.

The poor utilization of flood plains is due not only to their unsatisfactory reclamative state and location, but also to the shortage of equipment and to the lack of correspondence of the technical properties of machinery and equipment to the working conditions on water-logged soil. On sovkhozes in the okrug during 1976-1980 grass mowing was mechanized 84 percent and the piling and stacking of hay, 25 and 16 percent respectively. No more than 13 percent of the feed was harvested by pickup presses.

Feed production on arable land is of a focal nature. Perennial (clover and lupin) and annual (peas-oats mixtures and sunflower seeds for silage) grass is cultivated in the south-western part of the okrug and occupies from 46 to 81 percent in the crop structure. Its yield is not high. On the average, during the years of the 10th Five-Year Plan 14 to 17 quintals of perennial grass hay and 10 to 12 quintals of annual grass hay per hectare were gathered.

In winter there is a shortage of succulent feed, whose proportion in the ration structure does not exceed 5 to 8 percent, while the norm is 20 to 25 percent. In the future succulent feed should predominate in the structure of rations of the dairy herd: silage, 15 to 25 percent and haylage, 15 to 20 percent. The share of coarse feed will be lowered to 15 or 20 percent and of concentrated feed, to 30 or 45 percent and the content of digestible protein in one feed unit will rise to 107 grams. The expenditures of feed for cows with a milk yield of 2,500 kg must be raised to 35 quintals of feed units and of digestible protein, to 110 grams per feed unit; with a milk yield of 3,000 kg, 39 quintals of feed units and 110 grams respectively. The shortage of digestible protein in winter rations will have to be covered by imported mixed feed with a higher content of protein, that is, 125 to 130 grams per feed unit.

According to the calculations of the Siberian Scientific Research Institute of Economics of Agriculture, to meet the needs of animal husbandry in the Central Ob Area for succulent, coarse and pasture feed, it is necessary to have 123,000 hectares of natural hayfields, including 20,000 with superficial improvement, an equal amount with basic improvement, and 70,000 hectares of natural pastures, including 12,000 hectares with superficial improvement and 7,000 hectares with basic improvement (DKP [expansion not given]). It is necessary to develop about 10,000 hectares of new land into arable land for the production of fodder crops, to significantly change the structure of utilization of arable land and to considerably increase the areas sown with annual (up to 1,500 hectares) and perennial (up to 5,000 hectares) grass.

Milk production can also be increased through the intensification of dairy cattle breeding. The pedigree improvement of animals is the most important factor in this. In our opinion, work on an improvement in the pedigree and productive qualities of animals in the okrug must begin with the singling out of a pedigree nucleus and establishment of control yards for checking first heifers for productivity and suitability for mechanical milking.

High-grade replacement stock is one of the basic sources of increase in the productivity of the milch herd. Dairy farms themselves now raise it. Insufficient feeding leads to the prolongation of the breeding periods and to the overexpenditure of feed and other resources. That is why expenditures per animal reach 700 to 1,200 rubles and the productivity of first heifers does not exceed 1,500 to 1,800 kg of milk annually. Such breeding stock is unable to fully manifest the hereditary properties of productivity. A directed breeding of replacement heifers in the okrug is a necessary condition for the development of highly productive herds.

In the future a fuller satisfaction of the population's needs for whole milk will require an increase in the stock of cows with a milk yield of 3,000 kg totaling up to 43,300 head. For the replacement of the basic herd it is necessary to have 13,400 highly productive primipara heifers.

Under the conditions of the weakly developed road network the supply of whole milk for the population of cities and large industrial centers is extremely difficult. Therefore, in the future dairy cattle breeding in the Central Ob Area could develop according to the suburban type. No more than 35 percent of the dairy herd is now concentrated in suburban zones. The biological potential of cattle on suburban farms cannot ensure high rates of increase in this stock and in its productivity through its own reproduction.

In connection with this, in our opinion, it is advisable to specialize part of the farms located at a considerable distance from industrial centers in the raising of young stock; for example, such as the Kondinskiy, Khanty-Mansiyskiy, Repolovskiy and Tsingaliyskiy sovkhoses, the Khanty-Mansiysk Experimental Model Farm, the vegetable and dairy combine and the Krasnaya Zvezda and 40 Let Oktyabrya fishing kolkhoses. They could annually deliver up to 1,200 or 1,300 head, or 9 to 10 percent of the replacement stock, to suburban commodity farms. Furthermore, the establishment of 10 to 13 specialized farms for raising 6,200 to 6,500 primapara heifers annually in the okrug is recommended.

For fully supplying 20 large dairy farms with highly productive primapara heifers it is desirable to also have specialized sovkhoses for the directed raising of 3,200 to 3,400 head of replacement young stock received from dairy complexes at the age of 3 to 5 months. Urmanny, Il'ichevskiy, Tundrinskiy, Pokurskiy and Vanzeturskiy sovkhoses are proposed as such. They have quite good conditions for feed production and are in the center of their zones. The expenditures on raising primapara heifers on specialized farms in the okrug would be 630 to 680 rubles lower than the cost of those purchased in the country's other oblasts.

An annual delivery of cows from pedigree farms in Arkhangelsk and Vologda oblasts and the Komi ASSR is another potential for the production of milk and increase in the stock of a highly productive dairy herd. A total of 2,300 to 2,500 head, or about 20 percent of the total replacement stock, will be needed annually.

Calculations show that the realization of these proposals would raise the productivity of cows by 26 to 30 percent, including through a pedigree improvement in herd, by 13 to 15 percent, a reduction in barrenness, by 10 to 11 percent and an improvement in feeding conditions, by 30 to 35 percent. Shortening the service period to 30 or 40 days and of the dry period to 60 or 65 days will give an increase of 320 to 370 kg of milk per cow.

As is well known, production volumes depend on the level of specialization and concentration. This also applies to dairy cattle breeding. On farms, where there are more than 400 to 600 cows in sections, labor expenditures and the production cost of milk are 35 and 27 percent lower respectively than in sections with a stock of 50 to 200 cows and, conversely, milk yields are 22 percent higher. On most farms in the okrug sections are still small, that is, 20 percent of them have 100 cows each, 72 percent, 200 cows and only 2 percent, more than 300 cows. Therefore, the level of overall mechanization at them does not exceed 30 percent.

The specific nature of northern conditions, shortage of manpower and short pasture period set the task of organizing highly mechanized dairy complexes for 600, 800 and 1,200 cows near big cities in the future.

The realization of all these measures ensuring an accelerated growth of milk production, naturally, will require additional expenditures. Our calculations have shown that with capital investments of 4,000 rubles per cow with

a milk yield of 3,000 kg the amount of production expenditures per cow rises to 1,200 or 1,300 rubles (which meets the requirements of the organization of dairy cattle breeding in the Central Ob Area). On the other hand, the economic efficiency from the decrease in the expenditures on milk production in the okrug will be substantial.

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LIVESTOCK

REVIEW OF KAZAKH LIVESTOCK SECTOR, MEAT PRODUCTION PROSPECTS

Alma-Ata SEL'SKOYE KHOZYASTVO KAZAKHSTANA in Russian No 2, Feb 84 pp 36-37

[Article by A. Dementova, chief livestock expert of the Kazakh SSR Ministry of Agriculture, in the column "Stockbreeding": "And in the Winter--High Productivity"]

[Text] The principle aim of the Food Program is to improve the supply of food items to the population as quickly as possible, with the primary emphasis on supplies of meat. The average yearly production of this commodity in the republic during the 11th Five-Year Plan should be significantly increased and reach 1.3-1.4 million tons in slaughter weight.

Approximately 50 percent of the republic's meat balance is taken up by beef production. Nearly all sovkhoses and kolkhozes are involved in the breeding of beef cattle. Out of the 722 farms raising cattle for meat, there are 70 specialized meat-producing sovkhoses.

The public sector of the republic annually produces 570,000-630,000 tons of beef, live weight, and supplies 1.5-1.6 million head of cattle to the state. This has led to the accumulation of a wealth of valuable data concerning pasture and feedlot operations. The average market weights have been in excess of 400 kg, and 70-80 percent of the cattle have been sold at higher and middle levels of fatness.

It should be noted that, in the recent period, the supply of cattle to the meat industry has been more consistent over the course of the year, thereby facilitating the continuous operation of its individual enterprises. But, in light of the fact that the majority of farms, in trying to exploit favorable weather conditions and inexpensive pasture fattening, hold back on the sale of animals in the summer period. The greater part of them--more than a million head, or 70 percent--comes to market from October to April. The experience of past years shows, however, that, in the majority of cases, daily weight gains decline in the winter period, while the incidence of murrain in cattle increases, thus resulting in a considerable production shortfall. In the recent winter period, for example, average daily weight gains for the republic as a whole amounted to only 239 grams, against 403 in the summertime, while daily weight gains per head of cattle totaled 163 grams on farms of Uralsk Oblast, 146 grams in Tselinograd Oblast, and only 88 grams in Karaganda Oblast. For this reason, the efficient operation of cattle feedlots in the winter period plays a crucial role. The problem lies in avoiding a decline

in meat productivity in wintertime and maintaining it at the level of the summer season, while realizing an increase in beef weight gains and production.

And there is absolutely no reason why this cannot be achieved in the coming year. In the first place, the farms have adequate numbers of fattened cattle. There are currently 793,000 head of cattle in feedlots, and estimates call for the delivery of an additional 725,000 head of calves during the winter period. Moreover, 180,000 to 200,000 steers will be brought to maturity, and after 8 months of age will be removed from secondary maintenance in beef production. All that is necessary--bearing in mind age and fatness level--is to effectively wean the calf and create for him the necessary feeding and maintenance conditions. In the second place, during 1983, adequate quantities of coarse and succulent feeds were put up, much valuable knowledge and skill in feed processing was acquired, and farms operated more than 3300 feed processing plants capable of refining and processing the entire volume of feeds. In addition to cattle barns, there are feed lots sufficient to house 1,122,800 head of cattle at the same time. There are also highly experienced and skilled staffs of cattle breeders, who are very proficient in fattening operations, as well as an adequate supply of veterinary specialists. All that is necessary is a high level of organizational effort; efficient and reliable operation of the veterinary service; and the mobilization of all branches of animal husbandry to achieve high productivity and fulfill the plans and obligations relative to the production and procurement of beef.

The outstanding farms organize year-round systematic fattening operations, do not permit wide seasonal variations in the supply of cattle to the state, and do not show reductions in weight gains in the winter period. Among them are the sovkhoses "Kuduksayskiy" of Aktyubinsk Oblast, imeni XXIII parts'yezd and "Organizator" of Kustanay Oblast, imeni Ushakov of Turgay Oblast, the pedigreed stock sovkhos imeni Leninskiy Komsomol of Kazakhstan, and the stock breeding plant "Chalabay" of Semipalatinsk Oblast, as well as several others.

Farms of Panfilovskiy Rayon of Taldy-Kurgan Oblast are taking effective measures to increase cattle productivity and meat production. The feed problem has been resolved here as a result of the successful development of the feed-corn program, which has made it possible to raise the marketed weight of cattle in 1982 to 500 kg. In addition, more than 10 feedlots are in operation on farms this year, and sleek, well-fattened cattle are being marketed at enterprises of the meat-processing industry.

Additional reserves for increasing beef production have been uncovered on the stockbreeding sovkhos imeni Leninskiy Komsomol of Kazakhstan of Semipalatinsk Oblast. For 5 years, this farm has been operating a very uncomplicated and inexpensive program for raising and fattening as many as 2000 head of calves at a time. The animals are allowed to range freely, are maintained on deep bedding, and given free access to feed and water in the feedlot. The feed is distributed in the form of a well-balanced mixture prepared by a feed-processing plant. Practical experience has demonstrated that a calf raised in this type of regimen is distinguished by a sturdier bone structure and a lower susceptibility to disease. The 2000 head of cattle are tended by a staff of five, and the average daily weight gain during the winter period reaches 600-700 grams.

Many years of experience demonstrate the high efficiency of fattening cattle in mechanized feedlots. In Kustanay Oblast alone, there are 228 such operations, including 159 for winter fattening. This program employs specially modified maintenance facilities as well. There is no stall maintenance and bedding is not changed, while grazing areas are provided. As a result, the farms of the oblast have significantly increased their production of calves up to 2 years in age with higher market weights. In the first 9 months of 1983, 8700 head of calves with an average live weight of 472 kg, 97 percent of which were at higher fatness levels, finished fattening and were sold to the state in Ordzhonikidzevskiy Rayon. The figures for the same period for sovkhoses in Fedorovskiy Rayon were 9700 head of calves at 485 kg, 92 percent of which were at higher fatness levels.

The sovkhoses of these rayons entered into the winter period in a highly organized and efficient manner: animal shelters were prepared on a timely and skillful basis; feeds were transported to the winter maintenance locations; proper procedures were followed with regard to feed accounting and expenditure; appropriate conditions for maintenance and preparation for fattening were provided; well-balanced rations were prepared; and a zootechnical analysis of feeds was carried out, while feed-processing plants operate on all farms. All of the young stock has been formed into a herd by groups according to sexual maturity, and they are being raised to maturity with much zootechnical skill. A feeding program has been worked out for calves under 6 months of age which includes whole milk, skim milk, and milk substitutes. In addition, a fattening regimen has been developed which is based on coarse, succulent, concentrated, and mineral feeds, and the young animals provide a generous return on the expended feed: 700-800 gram weight gains.

There are many outstanding stockbreeders in Kustanay Oblast. During the first 9 months of 1983, the link headed by Vasilii Nikolayevich Rudnev from the sovkhos imeni Nekrasov fattened and sold to the state 658 head of cattle at a live weight of 519 kg, and in September weight gains amounted to 820 grams per day. The link directed by Nikolay Grigor'yevich Shestopalov from the sovkhos "Klyuchevoy" marketed 420 head at an average weight of 500 kg during this period, and average daily weight gains reached 1000 grams.

In the annual cattle productivity charts, there are usually observed two significant downward trends on many farms. These occur at the beginning and at the end of the winter period, when the cattle are being put into and being removed from stall maintenance. This can possibly be traced to objective causes having to do with the physiology of the animals and the change in conditions. More often, however, it is related to incompetence. Careful and industrious managers either do not permit such occurrences, or they hold them to a minimum.

As was the case on many farms of the Kustanay region, the sovkhos "Organizator" did not allow a sharp dropoff to take place last fall. Stockbreeders entered into and carried out wintertime activities with confidence and skill--from the very first day, directing their efforts to increasing productivity and meeting objectives for the sale of meat to the state. In October, higher weight gains were realized, and cattle in the feedlots are prepared for marketing in the winter period. The farm established a one-and-a-half year supply of feed, and two feed-processing plants are in operation. One of them has a capacity of 40 tons of mixed chopped straw, silage and microadditives. The other processes up to 3 tons of liquid feeds daily.

In great measure, the success of the venture results from progressive methods of organization and wage payment. One of these is links working for solidary payment. The sovkhos has developed a system of socialist competition which was conceived with much care and deep thought. The necessary commitments have been established, and monthly reciprocal monitoring takes place between the competing stockbreeders, in the course of which shortcomings are revealed and experience is shared. Results of the competition are posted on a timely basis (for a 10-day period, the month, the quarter). The entire collective participates in a discussion of these results. The best stockbreeders are awarded pennants and prizes. The Flag of Labor Glory is raised in honor of the winners.

The farmers of Turgay Oblast have exercised great care in implementing high-grade feeding operations for cattle, and have scrupulously avoided the sharp fall drop-offs in cattle productivity. With the first frosts, many farms--not wanting to rely on the scant pasturage--placed the cattle in shelters, and made arrangements for proper maintenance.

The Turgay stockmen--initiators of the republic competition--were true to their word: they laid in more than a million tons of coarse and succulent feeds. Stockbreeders are well aware of the fact that the greatest degree of effectiveness is obtained from available feeds when they are used wisely, are carefully preserved over the long winter period, and fed to cattle only in a well-prepared form.

From the very first days, a strict accounting for every kilogram of hay has been imposed on the sovkhos imeni Ushakov. Hay expenditures have been placed under special control. The feed-processing plant is operating at full capacity, and mineral supplements are continually introduced to increase the nutritional value of feeds. The zootechnical service, headed by A. Kolesnikov, is constantly alert to see that each quintal is used strictly as intended, and, in conformity with plan-estimated weight gains, the feed rations are being engineered in relation to productivity. This kind of responsible business attitude is no novelty among Ushakov workers. In the last winter period, they held one of the positions of honor in the All-Union competition, and their work was recognized by the awarding of a certificate of honor from the CPSU Central Committee, the USSR Council of Ministers, the AUCCTU [All-Union Central Council of Trade Unions], and the Central Committee of the VLKSM [All-Union Leninist Communist Youth League]. This winter, they intend to further their success, and make use of available reserves. Weight gains during the first month of the winter period totaled 750 grams average, while cattleman, D. Beisov, broke through the kilogram barrier.

The least amount of seasonal variation was noted on the sovkhoses imeni Panfilov, "Pobeda", and at the agricultural experiment station. Here, during the winter period, a wide assortment of granules, pellets, liquid and succulent mixtures were introduced into feed rations.

An analysis of beef production over the years indicates that meat productivity varies in relation to the makeup of the feed base, and primarily in relation to the availability of processed feeds for the winter stall maintenance, but also in relation to the methods used for fattening cattle, and the production and maintenance of their offspring. For example, 17.3 quintals of feed units per nominal head was laid in for the winter period of 1980-81. This is among the highest indicators. In 1981, the largest number of offspring--1,661,600 head--was obtained, and the highest delivery weight--407 kg--was attained. All of

this has made it possible to obtain the highest volume of beef--667,200 tons at live weight, or 103 kg per head of cattle. The increase in growth, compared to 1980, amounted to 112,000 tons, or 20 percent.

The national cattle population entered the winter period of 1981-82 with the provision of 15.3 quintals of feed units per head. And this was reflected in productivity. In 1982, as compared to the year before, there were 39,400 fewer calves produced; delivery weight declined by 30 kg, which negatively affected beef production: deliveries were down 53,800 tons.

This facts reveal how important it is to have an adequate feed reserve for the winter-stall period. However, it is also necessary to arrange for the proper storage and utilization of feeds.

A profligate attitude toward feed expenditure leads to increased costs for the products of animal husbandry. It is therefore quite important to implement proper methods of accounting for and utilizing feeds, to distribute them in a precise manner to farms and brigades, and to provide for the actual feeding operations. Feed-processing plants should be operated by all farms. Experts have calculated that each ton of threshing-floor feeds, wetted down with, for example, a lime solution, in terms of its nutritive value, replaces almost two tons of unprocessed feeds. When one takes into account also the improved edibility of a feed mixture made of straw processed by whatever means, it turns out that the same ton provides an additional 120-140 feed units, which makes possible a significant savings of concentrates. And, this is especially important right now, when the trend is to a reduction in the amount of grain-fodder in the rations. The use of processed straw increases the average daily weight gain of fattening calves by 15-25 percent, and reduces feed costs by 4-12 percent.

The current winter period is a serious test for farm workers. The more so, in that in several rayons, and on a number of farms, a difficult situation has been created with regard to feeds. Under these conditions, the careful use of feeds in processed form only will be of crucial importance.

The CPSU Central Committee, the USSR Council of Ministers, the AUCCTU, and the Central Committee of the VLKSM have all approved the initiative of the outstanding collectives of stockbreeders, who have proposed a socialist competition aimed at successfully carrying through the winter period for cattle, increasing production and procurements of the products of animal husbandry in the winter period, meeting and exceeding previously accepted commitments. Responding to this initiative with intensified labor is the duty of every farm worker.

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LIVESTOCK

IMPROVED LIVESTOCK PRODUCTION IN ARMENIA

Yerevan KOMMUNIST in Russian 25 Apr 84 p 1

[Editorial: "Domestic Contract"]

[Excerpts] In the past year for the first time 113,100 tons of meat, 317,900 tons of milk and 358.2 million eggs were purchased in our republic. These figures express the successes achieved by livestock breeders. They are the result of consistent and purposeful work on improving the composition of the public herd, strengthening the fodder base, discipline and order in production and improving labor conditions on the farms.

The introduction of advanced processes and leading methods of labor organization plays a very important role in the results achieved by livestock breeders. The collective contract is receiving increasingly widespread dissemination on farms.

Good experience in this matter has been amassed in Ashtarakskiy Rayon, where about 15 brigades have already converted to contract in livestock production. Thanks to the successful work of contract collectives at the Karpi Sovkhoz, they managed to fulfill successfully the plans and commitments for all types of livestock production and to save all of the off-spring obtained. At the Ushi Sovkhoz in the unregulated link the average weight of animals put on intensive fattening has already been brought up to 500 kg.

High results on the contract are being achieved in Razdanskiy, Sisianskiy, Vardenisskiy, Akhuryanskiy and other rayons of the republic. Such a method of organizing labor is educating and uniting people, since each person is now responsible not only for himself but for the entire collective. Thus, the collective contract not only helps increase labor productivity and achieve high end results, but also increases labor discipline, strengthens comradesly cohesion and heightens conscientiousness in the collective.

Such are the economic and moral aspects of the brigade contract, and that is why party and soviet organs locally and rayon agro-industrial association councils must pay constant and great attention to its broad dissemination.

The domestic contract is acquiring just as much importance as well. Under the conditions of our republic where at many farms they are still sensing a

shortage of cattle space and work hands, its introduction on a wide scale is very important.

In essence, meat farms at home not only provide high supplement to the volume, but also make it possible to resolve certain problems in livestock production, including personnel problems, to relieve as much as possible the efficiently planned work day of the livestock breeder and, mainly, save for the public farms a substantial reserve of feed which is in short supply.

One need only make a small comparative analysis to see how economically beneficial it is to fatten young pigs at farmsteads.

At most of the republic's farms developing hog production, an average of 8.5-10 feed units are spent to obtain each kilogram weight increment. At the same time, by giving out young pigs for fattening, the kolkhoz or sovkhos provides only three feed units to the farmstead owner per each kilogram weight increment.

Such a substantial feed savings helps lower production costs and in the final analysis strengthens the economic system. Many of the republic's farms and rayons, having recognized the great advantages of this, are extensively using the meat resources of the farmsteads. In particular, out of 11,087 quintals of meat realized in the Masisskiy Rayon last year, 2,012 quintals or 18 percent came from farmsteads.

In Araratskiy Rayon the production of high-grade pork increased by 140 tons with the introduction of the domestic contract. The farms of Aragatsskiy Rayon show an example of skillful and effective use of the domestic contract for fattening young pigs, where until recently hog production was practically not being developed. Here 356 tons of meat have been purchased from farmsteads and turned over to the state; this was 23 percent of the total amount of meat procured in the rayon.

Much is being done in the republic to give this progressive undertaking a purposeful and systematic nature and to give it continuous practical support. In the past year alone 43,500 young pigs were earmarked for fattening, triple the amount in the previous year. This made it possible to obtain about 25,000 hogs with an average weight of 99 kg from farmsteads, which in terms of meat was 2,500 tons.

The first steps for establishing a special mixed feed fund for the needs of the farmsteads have been taken. About 14,000 tons have already been allocated for the current 6-month period. In 14 of the republic's rayons 47 reproducers have been established for the purpose of steadily supplying farmsteads with young pigs, including in Spitakskiy, Aragatsskiy, Ashtarakskiy, Aniyskiy and a number of other rayons.

Much has been done, but there is still much left to do in order to draw in practically every rayon and farm into this necessary matter. For this, it is necessary that the Ministry of Agriculture and gosplan develop effective measures for more fully and steadily providing the rayons with combined feed, taking into account the systematic allocation of it for the needs of the farmsteads.

LIVESTOCK

SPECIALIZED BEEF CATTLE RAISING PROMOTED

Moscow SEL'SKAYA ZHIZN' in Russian 22 May 84 p 2

/Article by M. Glinka, zootechnician: "Key to Beef Herd"/

/Text/ First of all, we will try to answer the following question: In general, is it necessary to develop beef cattle raising as a specialized sector on our farms? The question is not as simple as it seems and the answer to it is not at all obvious. A significant and, judging from recent years' events, perhaps even a major part of specialists answer it in the negative. In their opinion, to increase beef production, it is sufficient to properly organize the intensive fattening of extra-remount young stock obtained on dairy farms.

In fact, a dairy cow gives not only milk, but a calf as well, and the young stock of the breeds we raise is fattened quite well. The following data were cited at the all-Union conference for improvement in the quality of meat. At the age of 17 months the weight of black-and-white bulls reaches 436 kg, of Simmental bulls, 407 kg and of red steppe bulls, 393 kg. If the average weight of animals delivered for slaughtering is increased to 400 kg, as compared to last year's 353 kg, more than 1 million tons of beef can be obtained additionally.

Nevertheless, even with the most exemplary organization of fattening dairy farms alone are unable to give the necessary quantity of beef. For example, a highly productive cow can provide milk for 10 to 15 people and meat, for no more than six. In order to fully meet the needs of the country's population for milk, about 36 million cows with an annual milk yield of 3,500 kg are sufficient. However, if the herd structure is not changed, under any conditions it will be impossible to obtain from them more than 8.5 million tons of meat in carcass weight--much less than needed. There is one way out--to increase the number of beef cows. "To intensify work on the development of the beef cattle raising sector in regions where there are the pasture grounds and possibilities necessary for the establishment of intensive feed production on reclaimed land"--this is how this task is defined in the USSR Food Program, which states that an accelerated growth of beef production should become the basic direction in the increase in meat resources.

The country's scientists have conducted a multivariant study of the prospects for the development of milk and meat production. Their conclusion is unequivocal: In order to obtain sufficient beef, for every three or four cows in

the dairy herd it is necessary to have no less than one cow in the beef herd. As long ago as 1982 the department of animal husbandry of the All-Union Academy of Agricultural Sciences imeni V. I. Lenin and the Main Administration of Animal Husbandry of the USSR Ministry of Agriculture worked out a plan for the development of beef cattle raising coinciding with this optimum variant. However, during coordination with the Union republics this plan was corrected toward the smaller side, especially in the Ukraine, Belorussia and Tajikistan. Completely insufficient rates of the sector's advance have also been envisaged in the Russian Federation and Kazakhstan.

In the country there are many examples of a successful development and high efficiency of beef cattle raising. SEL'SKAYA ZHIZN' has often discussed them. Wherever the development of the meat sector is undertaken seriously and widely, it brings a rapid growth of beef production and stable profits. I would like to cite another example. On the Moskalevskiy Sovkhoz in Kustanay Oblast the development of specialized beef cattle raising, when the population of the livestock sold to the state increased from 906 to 3,100, or 3.4-fold, made it possible to increase beef production from 303 to 1,650 tons, or more than five-fold. At the same time, the average delivery weight of livestock increased 1.5-fold, that is, from 334 to 523 kg. Beef cattle raising annually brings the farm 1.2 to 1.5 million rubles of profit and the level of its profitability comprises 49 to 53 percent.

High fattening qualities are the main advantages of the livestock of specialized beef breeds. For example, animals of the pedigree types of beef cattle raised in the Ukraine in the last few years weigh 220 to 315 kg at the age of 7 or 8 months and 550 to 600 kg at the age of 1½, expending only 6.0 to 6.7 feed units per kg of weight gain. At the same time, their killing-out percentage reaches 60 to 62 percent, as compared to 55 or 57 percent in animals of dairy and combined breeds. This means that we obtain carcasses weighing 330 kg and more. The weight of the carcass of beef cattle often surpasses the live weight of dairy cattle! Furthermore, this carcass contains 4 to 6 percent less bones and sinews. Muscular tissue in beef cattle most strongly grows in the area of the back, loin and pelvis, which give the most valuable cuts. With regard to fat it is deposited primarily in muscles, thereby greatly improving the culinary properties and taste of meat. In animals of dairy breeds fat accumulates in internal organs and is not very suitable for food. All this taken together leads to the fact that from every beef bull we obtain not only 1 to 1½ more quintals of output, but also output of a better quality.

As is well known, a policy of utmost possible intensification has now been adopted in dairy cattle raising. Output is to be raised here primarily through an increase in the milk yields of cows without a marked growth of their stock. However, as we have become convinced, this stock is not sufficient to produce plenty of meat. This means that it is necessary to augment beef herds, especially as this will not require big expenditures. Beef cattle can be kept in the simplest structures without special mechanization, basically on less scarce and less expensive green, succulent and coarse feed with small expenditures of concentrates.

Moreover, in our opinion, beef cattle raising can serve as the basis for the revival of remote rural areas and villages. They still have livestock structures and sufficient hayfields and pastures, but not enough manpower. It is hardly advisable to build small dairy farms in such villages, as is done in some oblasts. Dairy cattle raising is the most labor intensive animal husbandry sector. But beef cattle raising will be profitable under such conditions. Fedor Fedorovich Eysner, corresponding member of the All-Union Academy of Agricultural Sciences imeni V. I. Lenin, who is a well-known expert in the meat sector, believes that an acute shortage of labor resources should be the basic indicator determining the advisability of development of beef cattle raising on a given farm.

In this light the position of the ministries of agriculture of some republics, which actually hamper or at least do not encourage an expansion of beef production, seems strange. For example, the RSFSR Ministry of Agriculture projected the rates of the sector's development much below the optimum rates and decided, as before, to concentrate most of the beef cattle only in the regions of the Volga and North Caucasus. However, even in these regions its population is decreasing. In the Kuban in the last 4 years the stock of beef cows has decreased from 9,400 to 2,700, in Rostov Oblast, from 112,700 to 96,800 and in Volgograd Oblast, from 37,700 to 31,000. Even Orenburg Oblast, one can say, the homeland of our beef cattle raising, has lost more than 5,000 cows, that is, almost one-tenth of the breeding herd, during these years. Throughout the republic it has decreased by almost 75,000 head. Beef herds in Belorussia, where a highly productive, new breed is to be developed, have thinned out.

In the Ukraine, where such work has entered the concluding stage, at first it was decided to develop beef cattle raising on 171 farms. Then their number was reduced to 14 pedigree reproducers. In fact, this work is done only on 10 kolkhozes. Moreover, some of these pedigree reproducers have been transformed into interfarm fattening enterprises engaged in the fattening of young stock... from dairy farms. At the same time, beef cattle raising automatically becomes an additional, secondary sector. The basic problem--what should be done with pedigree young stock--has not been solved. The most valuable animals, which should have replenished breeding herds and expanded the meat sector, are slaughtered.

From the Veremeyevskiy Sovkhoz in Cherkassy Oblast beef cattle was transferred to the Chernigov Ukraina Kolkhoz. However, whereas in the sovkhoz herd there were 500 beef cows, in the kolkhoz herd, only 120. Hereford beef cattle was removed from the experimental Terezino Farm. Only less than one-half of the Charollais cows removed from Sumy Oblast reached the Chernigov Pravda Kolkhoz. This is how the regulation of the specialization of cattle raising farms looks in practice. As a result, in the Ukraine, where according to the initial plan by 1985 there should be 250,000 beef cows, only 21,000 remained, that is, 5000 less than in 1980.

Such a well-tested method of improving the fattening qualities of livestock and increasing beef stock as crossing culled and low-productivity dairy cows with bulls of beef breeds is not at all sufficiently applied in this and other republics. This method increases the beef productivity of crossbreeds by 10

to 15 percent with much lower feed expenditures per unit of weight gain. The recommendation of the all-Union conference on the quality of meat--to pay a 5 to 10 percent increment on existing prices for young crossbred stock to re-producer farms--has remained unfulfilled.

"Such an attitude toward beef cattle raising in a number of the country's republics," Aleksey Petrovich Kalashnikov, academician-secretary of the department of animal husbandry of the All-Union Academy of Agricultural Sciences imeni V. I. Lenin, believes, "does not contribute to an accelerated realization of the Food Program in the part of beef production." His concern is valid. Scientists at the country's leading institutes share it. Prof V. L. Vladimirov (All-Union Scientific Research Institute of Animal Husbandry) writes to the editorial board that in some of the country's zones beef farms are reduced and sometimes even abolished without any substantiation and the population of beef cattle is diminished. In his opinion, this sector should also be developed in intensive farming regions. Subscribing to this conclusion, scientists at the All-Union Scientific Research Institute of Beef Cattle, as Doctor of Agricultural Sciences A. Koptelov reports, believe that the situation formed with the development of beef cattle raising cannot be considered normal and that it (this situation) is created only as a result of the lack of understanding of the role of and need for the development of this specialized sector, without which it is impossible to accomplish the tasks set by the Food Program.

The technology that has been developed makes it possible to manage beef cattle raising with high efficiency. For example, during the 10th Five-Year Plan the average daily weight gains in cattle on the base farms of the Ukraine were 30 percent higher than the average throughout the republic. The Kolkhoz imeni Shevchenko in Kirovograd Oblast, where more than 2,000 head of beef cattle are kept, on the average, in 4 years has obtained 99 calves per 100 cows and the profitability level has comprised 50 to 55 percent. There are many such examples. The republic's scientists continue to improve technology. In particular, the method of intensively raising young stock on regime suckling, which has been proposed by them recently, promises great benefits. In this case the live weight of bulls reaches 250 to 270 kg by the time of weaning, 350 to 400 kg by 12 months and 550 kg by 16 to 18 months. Interesting methods of managing intensive beef cattle raising have also been developed at the All-Union Scientific Research Institute of Beef Cattle Raising (Orenburg).

The specialized sector--beef cattle raising--has demonstrated its vitality. It should be given wide scope.

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MESYATS ON STATUS OF AGRICULTURE, MEASURES FOR DEVELOPMENT

Moscow EKONOMIKA SEL'SKOGO KHOZYAYSTVA in Russian No 4, Apr 84 pp 3-13

/Article by V. Mesyats, USSR minister of agriculture: "Increase in the Economic Fertility of Soil"

/Text/ Last year, despite extremely complex weather conditions, perceptible results were attained in the country's agricultural development. Rural workers were able to obtain a fairly good grain and sugar beet harvest. The plans for the sale of potatoes, vegetables, flax fiber and tea leaves to the state were fulfilled and overfulfilled. Positive shifts in feed production were perceptible. Livestock breeders worked well. Kolkhozes and sovkhoses coped successfully with the established assignments for the sale of livestock products to the state. Gross agricultural output totaled almost 134 billion rubles, or 5 percent more than in 1982.

The growth of agricultural production, implementation of the set of economic measures adopted by the party and the government and the practical activity of party, Soviet and economic bodies for the realization of the Food Program had a marked effect on the strengthening of the rural economy. The country's farms obtained almost 22 billion rubles of profit. The share of profitable kolkhozes in their total number increased to 92 percent and of sovkhoses, to 80 percent.

Last year capital investments in the development of agriculture totaled 40 billion rubles. A total of 372,000 tractors of an overall capacity of 31 million hp, 116,000 grain harvesting combines and a great deal of other machinery, as well as 23 million tons of mineral fertilizers (in terms of 100 percent of nutrients), were delivered to rural areas. The achievements of scientific and technical progress and advanced experience aimed at an increase in the productivity of fields and farms and in the fertility of land and at its more efficient utilization are actively introduced into agricultural production.

Improvement in the utilization of land resources available to kolkhozes, sovkhoses and other agricultural enterprises is one of the largest-scale and immediate tasks set by the 26th party congress and the subsequent plenums of the CPSU Central Committee before rural workers and persons working in the country's entire agroindustrial complex. Whereas in industry land serves only as the territorial basis for production, in agriculture it "... Undoubtedly, is the chief means of production..." (V. I. Lenin, "Poln. sobr. soch."

/Complete Works/, Vol 19, p 327). Owing to its most important property, that is, fertility, land is the material basis for agriculture, where the interweaving of the economic and natural processes of reproduction occurs and the harvest is formed.

As is well known, K. Marx singled out three types of soil fertility: natural, that is, created by nature as a result of a long soil forming process, artificial, that is, created in the process of man's production activity and economic, that is, the unity of natural and artificial fertility. He was the first to scientifically substantiate the thesis that, when properly utilized, land does not wear out and does not decrease, but increases, its fertile strength. Its basic difference from other means of production lies in this. "With a rapid development of the productive force," K. Marx wrote, "all old machines should be replaced with more advantageous ones, that is, they should be discarded completely. On the other hand, land improves constantly if it is handled properly" (K. Marx and F. Engels, "Soch." /Works/, second edition, Vol 25, part II, pp 342-343). F. Engels, pointing out the possibilities of increasing soil fertility, wrote the following: "The productive force at mankind's disposal is infinite. The yield of land can be endlessly increased through the application of capital, labor and science" (Ibid, Vol I, p 563).

The conclusion of the classics of Marxism-Leninism on people's ever more active influence on soil fertility, as productive forces develop, was and is of vast practical importance. Along with this K. Marx, F. Engels and V. I. Lenin often pointed out that the utilization of land as the main means of production in agriculture is determined by prevalent production relations.

Land relations changed fundamentally in our country after the victory of the Great October Socialist Revolution. The land decree adopted at the Second Congress of Soviets on 26 October (8 November) 1917 was one of the first decrees of the Soviet regime. In accordance with it the private ownership of land was abolished immediately without any redemption fee. Land became common property. Peasants received more than 150 million hectares of land, which prior to that was owned by landlords, the bourgeoisie, members of the tsarist dynasty and monasteries. They were freed of the annual rent for it and of debts to the Land Bank. This initiated further agrarian reforms on the basis of Lenin's cooperative plan.

Throughout all the years of socialist construction problems concerning the protection and efficient and highly effective utilization of land have been in the center of the Communist Party and the major components of its agrarian policy. Suffice it to say that such decisions and documents as the Fundamentals of Land Legislation of the USSR and the Union Republics, the decrees of the USSR Council of Ministers "On Compensation for Damages for Land Users and for Losses of Agricultural Production During the Withdrawal of Land for State and Public Needs," "On Measures for Improvement in the Organization of Work on the Protection of Soil Against Wind and Water Erosion," "On Land Recultivation and the Preservation and Efficient Utilization of the Fertile Soil Layer During the Development of Mineral and Peat Deposits and the Performance of Geological Prospecting, Construction and Other Operations" and "On the Procedure of Keeping the State Land Register" and so forth have been adopted only in the last few years. The problem of development of a long-term land reclamation program was examined at the meeting of the Politburo of the CPSU Central Committee in September 1983.

Owing to the constant concern of the party and the state for an improvement in the utilization of the country's land resources and, primarily, as a result of the development of virgin and long-fallow land, in 1982 as compared with 1913 the entire sown area increased by more than 96 million hectares and totaled 214.3 million hectares. The fertile strength of every hectare of arable land grows steadily. For example, in 1909-1913 the average annual yield of grain crops totaled 6.9 quintals per hectare and in 1976-1980, 16 quintals per hectare, of cotton, 13 and 29.3 quintals per hectare, of sugar beets, 150 and 237 quintals per hectare and of potatoes, 78 and 117 quintals per hectare respectively. An especially marked increase in the productivity of fields occurred during the last three five-year plans, after the March (1965) Plenum of the CPSU Central Committee, which pursued the policy of the maximum possible intensification of agriculture.

At the same time, a successful fulfillment of the stepped-up assignments of the Food Program approved by the May (1982) Plenum of the CPSU Central Committee and an increase in the efficiency of agricultural production are impossible without the preservation and further rise in soil fertility. The USSR has vast land resources at its disposal. The total land area is 2,227.5 million hectares. A total of 556.3 million hectares of agricultural land, including 226.7 million hectares of arable land, 34.9 million hectares of hayfields and 289.4 million hectares of pastures, are in the direct use of agricultural enterprises and farms. However, the natural fertility of this land and its qualitative state in many regions are insufficiently high, which is one of the main reasons for the still low yield of agricultural crops. For example, on almost 21 percent of the total area of agricultural land on kolkhozes, sovkhozes and other state farms soil is saline to a varying degree, on 15 percent it is acidified and on 31 percent of its total area, including on 41 percent of the arable land, it is in a state of erosion or is potentially dangerous in this respect. Almost 30 percent of this land is placed on slopes 2 to 10 degrees steep and more.

In the USSR farming is managed under very complex climatic conditions: Two-thirds of the agricultural land is located to the north of the 48th parallel. The length of plant vegetation is 120 to 130 days here and in northern regions even less than that. Under these conditions it is necessary to grow and gather the harvest in a very short time. Approximately one-half of the country's arable land is in zones where the average annual amount of precipitation does not exceeds 300 to 350 mm. Essentially, these are zones of so-called risked farming, in which moisture reserves in soil are the basic limiting factor in the harvest. On the whole, the level of bioclimatic potential for a significant part of the farming regions of the USSR is lower by a factor of 1.5 than in Denmark and England, of 1.7 than in the FRG, of 2.2 than in France and of 2.4 than in the United States.

It should also be noted that in connection with the population growth the area of arable land per resident of our country has decreased from 1 to 0.83 hectares in the last 20 years. This tendency will also remain in the future, because the possibilities for a significant increase in the arable wedge are now limited. Therefore, a significant increase in soil fertility and on its basis a rise in the productivity and stability of farming are especially urgent. This problem can be solved only if farming strategy and tactics are

skillfully adapted to specific natural conditions everywhere and zonal scientifically substantiated farming systems are introduced more actively. Certain steps have already been taken in this direction. After the all-Union agronomic conference held in 1980 such systems have been developed and are introduced in most oblasts, krays and republics in the country.

A scientifically substantiated farming system includes the introduction and mastering of efficient crop rotations combining an optimal structure of sown areas with the necessary share of clean fallow, especially in arid zones, a rapid movement of highly productive varieties and hybrids to fields on the basis of industrial seed breeding, a highly efficient utilization of organic and mineral fertilizers, reclaimed land and equipment, implementation of soil protective measures for the purpose of preventing water and wind erosion of land, development of industrial technologies and an extensive introduction of advanced forms of labor organization and remuneration. This is a whole set of interconnected agrotechnical, reclamative and organizational-economic measures envisaging the creation of favorable conditions for a stable growth of the production of grain, feed and other plant products in every republic, oblast, rayon and farm.

The practical experience of many kolkhozes and sovkhozes in the Russian Federation, the Ukraine and a number of regions in Belorussia and Kazakhstan, as well as in Estonia and Lithuania, shows that the introduction of scientifically substantiated farming systems has an immediate effect on the growth of the yield of all agricultural crops. For example, having mastered zonal farming systems, the Kavkaz and Druzhba kolkhozes in Krasnodar Kray, the Gigant Sovkhoz in the Tatar ASSR and the Sovkhoz imeni Kirov in the Moldavian SSR annually obtain grain harvests of 50 quintals per hectare and more and the Rossiya Kolkhoz and the Shlyakh do kommunizmu Kolkhoz in Cherkassy Oblast, the Sovkhoz imeni 60-letiya VLKSM in Tambov Oblast, the Novaya Zhizn' Kolkhoz and the Kolkhoz imeni Lenin in Tula Oblast, more than 40 quintals per hectare. Throughout the country about 1,600 farms now stably gather more than 40 quintals of grain per hectare and 2,400 farms, more than 35 quintals per hectare and on 4,500 farms the yield of grain crops exceeds 30 quintals per hectare.

When zonal scientifically substantiated farming systems are introduced, special attention is paid to the mastering of correct crop rotations and improvement in the structure of sown areas. Both crop rotations and the crop structure should be based on profound scientific studies and advanced practice. Preference should be given to crops, which under specific soil and climatic conditions ensure the highest output per hectare with low production costs, but with due regard for meeting state needs in accordance with planned assignments. Throughout the country crop rotations have now been introduced on 95 percent of the area of arable land. However, the introduced crop rotations have been mastered only on 78 percent of their area. This work is not activated in all republics.

On the basis of the developed farming systems the area of clean fallow throughout the country should total 20 to 22 million hectares, or approximately 9 percent of the entire arable land, and in arid zones (Kazakhstan, the Volga Area, Siberia and so forth), 15 to 20 percent. In 1983 the fallow wedge

occupied about 20 million hectares. In the next 1 or 2 years it will be brought up to the optimum sizes recommended by science. At the same time, it is very important to cultivate, fertilize and weed fallow at the proper time everywhere so that it may really be the "repair field" in crop rotations and, as on advanced farms, ensure a high yield of grain crops in any, even the driest, year.

The situation with the production of perennial grass seeds has improved significantly. For sowing in 1983 more than 327,000 tons (102 percent of the need) were stored on kolkhozes and sovkhoses and procured for state resources and for this year's sowing, 375,500 tons (112 percent of the need). This is very important for the mastering of correct crop rotations.

A great deal will also have to be done in the very near future to improve the structure of sown areas, primarily of the grain wedge. In recent years it has changed for the better. The area sown with rye has been brought up to optimal sizes, which has made it possible to fully meet the country's needs for rye bread. In the next few years the share of pulse crops in the sowings of all grain crops should increase to 10 percent and in the Ukraine, Belorussia and the Central Chernozem and Volga economic regions in the RSFSR, to 12 or 17 percent, as recommended by the scientific research institutes of these regions. Under these conditions we will be able to fulfill the assignments of the Food Program and to ensure gross output of pulse crops amounting to 12 or 14 million tons in 1985 and 18 to 20 million tons in 1990, which means to solve the problem of feed protein for animal husbandry. However, the output of groat crops--buckwheat and millet--is to be concentrated, their sown area being increased in Belorussia, the Ukraine, the Volga Area, the Central Chernozem Region and Kazakhstan.

An increase in the share of the sowings of fodder grain crops is envisaged. At the same time, it is advisable to increase the sowing of spring barley and oats in the Ural, Siberia, the Volga Area and North Kazakhstan, which will make it possible to simultaneously solve two problems--to produce much more fodder grain and to lower the intensity of harvesting operations through early barley ripening periods. It should be noted that the commodity production of the grain of strong and durum wheat is concentrated in these regions. Therefore, the share of the sowing of fodder grain crops should not be increased at the expense of a decrease in the sowings of highly valuable wheat varieties.

In the increase in the gross output of fodder grain a special role belongs to corn, which in its yield and fodder qualities is superior to other grain crops. Its sown area grows gradually. In 1982 as compared with 1976 it increased by 900,000 hectares, totaling 4.2 million hectares. The task of continuously increasing the share of the sowings of corn for grain in the structure of the entire sown area in Moldavia, in the steppe and forest steppe zones of the Ukraine, in North Caucasus, in the Central Asian republics and in South Kazakhstan is set. In these regions many farms annually obtain 40 to 50 quintals of corn grain per hectare on nonirrigated land and 80 to 100 quintals per hectare on irrigated land. The areas allocated for corn sowings in the Central Chernozem Region, the Volga Area, Polesye in the Ukraine and the Transcaucasus are to be expanded significantly in the next few years. This will make it possible to bring the gross output of its grain up to 20 million tons, as envisaged by the USSR Food Program.

The structure of the areas sown with perennial grass also requires a significant improvement. The point is that cereal grass now occupies about 50 percent of the entire area sown with fodder crops and the areas occupied by leguminous crops, especially lucerne, clover and sainfoin, are obviously insufficient. Their share in the total fodder area should be increased to 70 or 75 percent in the very near future. With due regard for this by the end of the 12th Five-Year Plan the area sown with clover in the basic regions of its cultivation should total 8 to 9 million hectares, as compared to 6.5 million hectares in 1983, and of lucerne, no less than 10 million hectares, as compared to 7.8 million hectares respectively.

It is necessary to significantly improve the structure of areas sown with annual grass. At present its share in the sowings of all fodder crops makes up 26 percent, which cannot be considered efficient. In the structure of areas sown with annual crops for feed purposes the share of areas sown with barley, oats, rye and wheat in pure form is unjustifiably high (65 to 67 percent) and of areas sown with annual grass highly valuable in terms of feed--vetch, maple peas, feed lupin and seradella--small, only 23 to 25 percent. Therefore, a great deal of work is also ahead here.

In the attainment of stable high harvests a special role is assigned to an improvement in selection work and in seed breeding. A firm policy of transferring selection-seed breeding to an industrial basis has now been adopted. In accordance with the decree of the CPSU Central Committee and the USSR Council of Ministers "On Measures for the Further Improvement in Selection and Seed Breeding of Grain and Oil Crops and Grass" 52 major selection centers and 18 selection complexes provided with the latest equipment have been established in the country. The first three phytotrons and 48 selection hothouses have been commissioned. More than 2,000 seed cleaning plants have been put into operation on kolkhozes and sovkhozes. Thus, all the conditions necessary for a more accelerated breeding and reproduction of highly intensive and other varieties and hybrids of grain and other crops necessary for production and for the organization of the production of high-category seeds of regionalized varieties on an industrial basis have been created.

The Food Program stresses the need for the development and extensive mastering in production of new promising varieties with the following potential yield: of winter wheat, no less than 80 to 90 quintals per hectare, of spring wheat, 45 to 60 quintals per hectare, of short-stem winter rye and of winter and spring barley, 55 to 65 quintals per hectare, of corn hybrids, 120 to 130 quintals per hectare on irrigated land and 80 to 90 quintals per hectare on nonirrigated land, of peas, 40 to 45 quintals per hectare and of other pulse crops, 20 to 30 quintals per hectare.

It should be noted that a number of recently developed varieties and hybrids meet these requirements in the level of potential yield. For example, 53 percent of the winter wheat varieties, 77 percent of the winter rye varieties, 65 percent of the winter barley varieties, 74 percent of the spring wheat varieties, 60 percent of the spring barley varieties and 100 percent of the pea varieties regionalized in the last 7 years have reached the necessary parameters in state strain testing. Now it is important to ensure their rapid reproduction, introduction into production and efficient utilization.

It should be stated that many selection centers and scientific research institutions engaged in research on selection and seed breeding operate efficiently, with a good return. They include the Krasnodar Scientific Research Institute of Agriculture imeni P. P. Luk'yanenko, whose varieties of winter wheat and winter and spring barley regionalized during the last 5-year period are cultivated on 600,000 hectares and the sowings of hybrids of corn for grain occupy almost 800,000 hectares; the All-Union Selection-Genetic Institute, which during the same period has given 21 varieties of grain crops, whose sowings are placed on more than 500,000 hectares, to production; the Siberian Scientific Research Institute of Agriculture, which has actively introduced four spring wheat varieties on 3.4 million hectares; the All-Union Scientific Research Institute of Grain Farming, whose spring wheat and spring barley varieties occupy more than 2.3 million hectares.

The collectives of these and some other institutes have done a great deal to accelerate the introduction of the varieties and hybrids developed by them into production. A total of 72 new winter wheat varieties were cultivated on kolkhozes and sovkhoses in 1982 alone. They were placed on 5.3 million hectares, which comprised more than 26 percent of the area sown with winter wheat. These are such intensive varieties as Severodonskaya, Belgorodskaya 5, Zaporozhskaya ostistaya /awned/, Odesskaya polukarlikovaya /semidwarf/, Tarasovskaya 29, Khar'kovskaya 81, Chayka, Donetskaya 5, Stepnyak, Prikubanskaya, and Krasnodarskaya 57. The newly regionalized spring wheat varieties Omskaya 9, Tselinnaya 20, Tselinnaya 21, Buryatskaya 34, Shadrinskaya, Almaz, Karagandinskaya 2 and Kutulukskaya occupied more than 7 million hectares, or almost 20 percent of the varietal sowings of this important food crop. Such high rates of introduction of new varieties and hybrids were attained for the first time. This was possible owing to the fact that experimental-selection and seed breeding institutions and the state strain testing network began to work in close contact with kolkhozes and sovkhoses.

The effective method of introduction of new varieties used by the Siberian Order of the Red Banner of Labor Scientific Research Institute of Agriculture, the All-Union Scientific Research Institute of Grain Farming and the Kurgan Scientific Research Institute of Grain Farming lies in the fact that after the preparation and registration of the new variety for state testing the institute's farms carry out an accelerated reproduction of its seeds and transfer them to support farms located in various regions of the zone of activity of the selection center. At the same time, scientific associates strictly see to it that personal responsibility for the seeds of new varieties is not done away with and that they are not discarded. Simultaneously with this kolkhozes and sovkhoses conduct their production tests and, if a variety is good, reproduce it quickly. Such experience deserves wide popularization. It must not be forgotten that an intensive variety and good seeds result in a sure 20-percent increase in the harvest. With due regard for this it is necessary to everywhere organize matters so that on farms every hectare of arable land is sown with high-category seeds of regionalized promising varieties and that a full harvest return is attained.

In the system of measures for an increase in soil fertility and in farm output an important role is assigned to an efficient utilization of mineral and organic fertilizers and all agents for the chemicalization of agriculture. World practice indicates that more than one-half of the increase in plant output is ensured through an extensive application of mineral fertilizers alone.

Owing to a number of objective reasons, the domestic chemical industry as yet cannot fully meet the demand of agriculture for mineral fertilizers, although their deliveries to kolkhozes and sovkhozes grow year after year. This generates an urgent need to increase the efficiency of utilization of every kilogram of mineral fertilizers and on such a basis to ensure a standard increase in the harvest on all farms. The possibilities for this exist everywhere.

Grain crops give the most substantial return on mineral fertilizers. During the 10th Five-Year Plan, on the average, 4.9 kg of grain per kg of nutrients of the applied mineral fertilizers were obtained throughout the country, 5.2 kg, in the Ukraine and 6.1 kg, in Kazakhstan. Cotton, rice and corn give a significant increase in the harvest per kg of nutrients of the applied mineral fertilizers. However, in the cultivation of potatoes, vegetable crops, flax and sugar beets the effectiveness of mineral fertilizers is not high. On the basis of this measures for a more efficient distribution of mineral fertilizers were adopted in 1983. The entire increase in mineral fertilizers is directed at grain crops. It is well known that the return on mineral fertilizers decreases sharply if they are utilized on acid soil. The area of such land in the country exceeds 65 million hectares. This is the case in the non-chernozem zone of the RSFSR, in the Far East, in a number of oblasts in Belorussia and in Polesye in the Ukraine. Here it is necessary to expand the volumes of liming in every possible way so that the applied fertilizers may be fully repaid with the harvest.

Much attention should be paid to a correct utilization of mineral fertilizers and their ratio with due regard for the agrochemical characteristics of specific soil and the dates and methods of application. Plans are made to widely introduce into production local and band application of mineral fertilizers, root dressings, application of phosphorus and potassium fertilizers mainly during basic soil cultivation and harvest quality control on the basis of the diagnosis of mineral nutrition of plants during the period of their vegetation.

The application of liquid ammonia and liquid complex fertilizers will expand significantly in the next few years. The replacement of the traditional forms of fertilizers with liquid ones will make it possible to fully mechanize the entire process of chemicalization and to eliminate nutrient losses. Some experience has already been accumulated. In 1982 in the country's various regions liquid ammonia was applied on an area of 3.6 million hectares. Its effectiveness is high. According to long-term observations, an increase in the harvest of grain of winter rye amounting to 14 or 17 quintals per hectare, of sugar beets, 50 to 60 quintals per hectare, of potatoes, 119 to 160 quintals per hectare, of cabbage, 212 to 324 quintals per hectare and of fodder root crops, 340 to 390 quintals per hectare was obtained in the nonchernozem zone of the RSFSR. By 1985 the volume of application of liquid ammonia is to be increased to 1.2 million tons as compared to 526,000 tons in 1982 and in 1990, to 2.5 million tons. The areas fertilized with it will reach 17.4 million hectares.

The utilization of such a quantity of liquid fertilizers is not a simple matter. We must prepare ourselves for it in advance and thoroughly and right now take the most drastic measures to accelerate the construction of out-of-

the-way warehouses and warehouses adjoining the railway line, purchase the necessary equipment and train personnel of machine operators and specialists. All technological operations for the application of ammonia and other liquid fertilizers should be centralized in Sel'khozkhimiya associations and performed with their forces.

With regard to organic fertilizers potentials also exist here. The output of manure from the available stock of animals totals more than 1 billion tons annually, 900 to 950 million tons being annually carted out to fields. In 1982, on the average, 4.1 tons of organic fertilizers per hectare of arable land were applied. However, to ensure a zero-deficit humus balance depending on the type of soil, it is necessary to apply from 7 to 15 tons. Therefore, an increase in the production and application of organic fertilizers is the important and urgent concern of every agricultural enterprise.

The USSR Food Program envisages increasing the production of organic fertilizers to 1.5 billion tons in 1990. The fulfillment of this task requires the organization on every kolkhoz and sovkhoz a factory for their procurement and preparation and a fuller utilization of all the existing reserves of organic fertilizers--peat, sapropel and household waste of cities and workers' settlements.

Many examples of a correct and truly careful approach to the application of organic fertilizers can be cited. This matter is well organized in Belorussia, where, on the average, no less than 13 tons of well-prepared manure or compost per hectare of arable land are applied. Practical conditions for the preservation, as well as a stable increase, of soil fertility have already been created on the republic's farms. An intensive utilization of organic fertilizers in combination with the liming of acid soil and a scientifically substantiated application of mineral fertilizers have enabled kolkhozes and sovkhozes in Belorussia to double grain harvests, to increase the output of all other crops 1.5 to 2-fold and to create realistic prerequisites for a stable management of farming in the last 15 years.

Farms in Moscow and Belgorod oblasts in the RSFSR and in some oblasts of the Ukrainian SSR and the Estonian SSR work fairly well on an increase in soil fertility through an efficient application of organic fertilizers. Their experience should be popularized and actively introduced everywhere. The increase in the deliveries of specialized equipment for the application of fertilizers to agriculture will play an important role in this.

It is very important to ensure an overall application of mineral and organic fertilizers in combination with herbicides and other chemical plant protection agents, which make it possible to obtain the greatest effect from their utilization. Unfortunately, the herbicides and pesticides produced by industry as yet are not sufficient for a prompt and high-quality execution of work on controlling weeds and pests of agricultural crops. This has a negative effect on the production of plant products. Without herbicides it is impossible to widely introduce industrial technologies in farming.

Reclamation is a powerful factor in an increase in the stability of farming, which means in the growth of the yield of agricultural crops. A large volume of work on land improvement has been done in the USSR. Large irrigation systems have been established in the Ukraine, North Caucasus, the Volga Area, Kazakhstan and the Central Asian Republics. Water-logged land has been drained on sizable areas. Millions of hectares of pastures have been watered in desert and semidesert regions. Irrigated arable land now comprises 79 percent of the entire area of arable land utilized for the sowings of agricultural crops in the Uzbek SSR, 68 percent in the Azerbaijan SSR, 64 to 66 percent in the Kirghiz SSR and the Tajik SSR and 99 percent in the Turkmen SSR and drained arable land, 9.3 percent in the Georgian SSR, 16 percent in the Belorussian SSR and 50 to 65 percent in the Baltic Republics.

The productivity of irrigated land is 5.8-fold and of drained land 1.5-fold higher than that of unreclaimed land. In the country's southern regions irrigation makes it possible to obtain two or three harvests annually. Occupying about 8 percent of the arable land, irrigated land gives almost one-third of the entire crop output. There are many examples of a highly efficient utilization of this land. Advanced farms in the Ukrainian SSR, the Moldavian SSR, the Uzbek SSR, the Estonian SSR, Stavropol and Krasnodar krais and Moscow, Leningrad and a number of other oblasts in the RSFSR on irrigated land gather harvests of 50 to 60 quintals of winter wheat grain per hectare, 90 to 100 quintals of corn grain per hectare, 60 to 70 quintals of rice grain per hectare, 40 to 50 quintals of raw cotton per hectare, 120 to 200 quintals of lucerne hay per hectare and 900 to 1,000 quintals of fodder root crops per hectare.

At the same time, high harvests are by no means always obtained on irrigated areas. This is due to the fact that on many farms technological discipline is low, irrigated land is not provided with full doses of mineral fertilizers and the appropriate equipment and concern for the establishment of specialized links is not manifested. All this lowers the effectiveness of irrigated farming.

For the purpose of the guaranteed production of raw cotton, grain, feed and other products it is necessary to raise the technical level of the reclamation projects under construction in every possible way and to improve their operating service. It is also necessary to reconstruct and put all the previously built reclamation systems in proper order and to see to it that land reclamation and its agricultural development may be carried out in a single complex. This will enable kolkhozes and sovkhozes to better utilize every reclaimed hectare and to obtain a large quantity of output from irrigated and drained areas.

An extensive introduction of advanced industrial technologies of production of specific types of products is the key factor in the intensification of farming. In other words, to increase the volumes of agricultural output and to raise the stability of this process, along with chemicalization and reclamation an overall mechanization of all labor processes in farming should be ensured. In the last 4 years alone the area sown with corn cultivated according to industrial technology has increased from 18,000 to 2.7 million

hectares. In 1982 sunflower seeds were also cultivated according to industrial technology on an area of 644,000 hectares, sugar beets, on 1.1 million hectares, soybeans, on 415,000 hectares, flax fiber, on 114,000 hectares, potatoes, on 89,000 hectares and tomatoes and onions, on 31,000 hectares. Good results were obtained on the overwhelming majority of farms. On the average, throughout the country the increase in the harvest of corn grain totaled about 10 quintals per hectare, of potatoes, more than 40 quintals per hectare, of sunflower seeds, 5 quintals per hectare and of soybeans, 4 quintals per hectare. However, in some regions, when industrial technologies are applied, results differ little from such with ordinary technology. This is due both to the nonobservance of technological parameters and to the shortage of the necessary equipment and pesticides.

The machine and tractor pool of kolkhozes and sovkhoses is annually renewed and replenished. At the same time, the attained level of provision of agriculture with power still lags behind the growing needs of production. Hence the disruption in the optimal agrotechnical schedules of performance of field operations and their low quality. For example, the shortage of antierosion implements hampers the fulfillment by kolkhozes and sovkhoses of soil protective measures preventing wind and other types of soil erosion in the necessary volumes, which are recommended by science. Investigations have shown that only 1 cm of a fertile soil layer is built up in 100 to 150 years, but a dust storm can destroy it in a few hours. The mastering of a soil protective farming system has made it possible to stop soil erosion on vast expanses in Kazakhstan and some other regions in a short time and to attain a more stable growth of grain production. This system now finds application in West Siberia, the Volga Area and North Kazakhstan. Kolkhozes and sovkhoses in Poltava Oblast and a number of oblasts in the south of the Ukraine are engaged in extensive work on the introduction of soil protective farming.

The soil protective system is effective everywhere. Its application increases the grain harvest by 2 to 3 quintals per hectare. At present, however, non-moldboard soil cultivation with stubble preservation is carried out only on 46 million hectares and sowing with antierosion seeders, on 43 million hectares, whereas there are more than 100 million hectares of land dangerous in terms of erosion in the country. The shortage of special equipment also hampers the implementation of measures for water erosion control: plowing and sowing across slopes and along horizontals, slitting, strip placement of agricultural crops, gully detention and afforestation, slope terracing and so forth.

Such an urgent problem as a decrease in the harmful mechanical effect of tractors and agricultural machines on soil, which leads to its degradation, has also arisen in recent years. Serious scientific investigations and on their basis recommendations for the application of so-called sparing technologies and the development of an appropriate set of machines are also needed here. In principle, the entire farming system should be of a general soil protective nature.

Machine building ministries are called upon in the next few years to ensure the output of energy saturated, new tractors, to modernize and increase the reliability of grain harvesting combines, to deliver a sufficient number of

highly productive machines for antierosion soil cultivation, combined units, heavy disk implements, precision drills and machinery and equipment for the transportation, mixing and application of solid and liquid complex fertilizers, preparation of working solutions of pesticides and their utilization in small-volume doses, without which it is inconceivable to widely and efficiently introduce industrial technologies, to kolkhozes and sovkhozes. It is also necessary to organize the production of self-propelled and trailed windrowers, flow lines and equipment for the postharvest treatment and storage of agricultural products. At the same time, an extensive program of work on a fundamental improvement in the utilization, technical servicing, repair and storage of equipment in agriculture will have to be carried out.

Natural and artificial soil fertility in its unity and the effectiveness of land utilization also directly affect the development of animal husbandry. Moreover, intensification of this vitally important sector is inconceivable without the establishment of a reliable feed base on every kolkhoz and sovkhoz.

It should be noted that after the 26th party congress and the May (1982) Plenum of the CPSU Central Committee kolkhozes, sovkhozes and interfarm enterprises carried out significant work in this direction. Special attention was paid to an improvement in the structure of areas sown with fodder crops and to an increase in the efficiency of natural fodder land. As a result, in 1983 kolkhozes and sovkhozes procured 246 million tons of coarse feed, or 105 percent of the plan, including 77.9 million tons of hay (108 percent), and stored 250 million tons of silage (101 percent). More haylage, fodder root crops, grass meal and other dehydrated green fodder were procured. On the whole, the procurement of coarse and succulent feed in terms of feed units reached 133.5 million tons. Recent years have been characterized by a marked increase in the volumes of feed production along progressive technologies: hay preparation with active ventilation, hay pressing, covering haylage and silage with polymer films, procurement of combined silage and so forth. The quality of feed has also been improved.

The positive shifts in feed production were not long in affecting the productivity of animal husbandry and made it possible to save a significant quantity of fodder grain and to establish a firm basis for successful livestock wintering and for a further increase in the production of livestock products.

In 1983 kolkhozes and sovkhozes successfully coped with the established assignments for the sale of livestock products to the state. The following were produced: 16 million tons of meat (in carcass weight), or 8.1 percent more than, on the average, in 1 year during the 10th Five-Year Plan; 96.4 million tons of milk, or 4 percent more; 74.7 billion eggs, or 18 percent more; 454,000 tons of wool (in physical weight), or 3 percent more. State purchases of livestock and poultry increased by 1.3 million tons as compared with their average level in 1976-1980, of milk, by 4.7 million tons, of eggs, by 9.6 billion and of wool, by 21,800 tons. All this was attained on the basis of the growth of livestock and poultry productivity with a simultaneous increase in stock.

Rendering the results attained in animal husbandry their due, it is necessary to note that the production of livestock products, especially meat, does not yet fully meet the population's growing needs. That is why animal husbandry

was and remains the shock front of work in rural areas. A great deal will have to be done in this sector. The Food Program envisages ensuring an average annual production of 17 to 17.5 million tons of meat (in carcass weight) during the 11th Five-Year Plan and of 20 to 20.5 million tons during the 12th Five-Year Plan, of 97 to 99 million and 104 to 106 million tons of milk and of 72 billion and 78 to 79 billion eggs respectively.

In order to reach these high goals, kolkhozes and sovkhoses have mapped out and persistently implement measures for the transfer of animal husbandry to an intensive path of development--selection-pedigree stockbreeding is improved further and proper order is introduced in herd reproduction. Industrial technologies are widely introduced in the sector, the flow-shop system of milk production and other advanced forms of labor organization and remuneration stimulating high end results with the lowest expenditures of labor become more and more widespread on farms and veterinary and zootechnical servicing on farms and at complexes is improved.

Nevertheless, we must once again note that the further, more rapid advance of animal husbandry completely depends on the intensification of specialized feed production and the provision of public livestock with diverse, high-quality balanced feed. That is why the Food Program envisages increasing feed production in terms of feed units to 500 million tons in 1985 and to 540 or 550 million tons in 1990 and to procure 110 to 112 million tons of hay and 60 to 63 million tons of fodder root crops. For this purpose kolkhozes and sovkhoses have developed and implement an extensive program for the further intensification of field and meadow-pasture feed production and increase in the productivity of all fodder land.

In field feed production plans are made, along with an improvement in the structure of sown areas, which was discussed above, to more actively engage in the breeding of seeds of fodder crops, especially grass, to more widely utilize the capabilities of irrigated land, where it is quite realistic to obtain two or three harvests, and to produce a significant quantity of coarse and succulent feed.

An increase in the productivity of natural fodder land, which now gives one-fourth of all the feed, is no less important a task. The Food Program envisages its fundamental improvement on an area of 27 to 29 million hectares, the establishment of irrigated hayfields and pastures on 2.2 million hectares and the watering of pastures on 36 to 38 million hectares. Attaching special significance to this large-scale work that is to be done, in January 1983 the USSR Council of Ministers adopted the decree "On Measures To Increase the Productivity of Natural Hayfields and Pastures." This decree envisages major material-technical and organizational-economic measures directed toward an accelerated intensification of meadow-pasture farming. It is important, maximally utilizing the growing resources of reclamation, chemicalization and mechanization, to do everything that is necessary in the very near future to increase the production of coarse feed on natural hayfields and pastures 1.5- to 2-fold.

Therefore, a steady increase in land fertility also plays a decisive role in the development of feed production and on this basis of public animal husbandry.

An improvement in the utilization of land and labor, material and financial resources and an increase in the production of agricultural products and in its efficiency are impossible without an extensive introduction of advanced forms of labor organization and remuneration, primarily the collective contract. As a rule, in brigades and links working on the basis of a contract the yield of agricultural crops is 15 to 20 percent higher and labor expenditures per unit of output are 10 to 30 percent lower than in collectives not using it. The example of the work of the link on the Sovkhoz imeni Dimitrov in Kustanay Oblast managed by F. V. Volik is characteristic in this respect. Crop rotation on an area of 2,208 hectares, five tractors, five grain harvesting combines and the necessary agricultural implements were assigned to the link and mineral fertilizers were allocated to it. Farm specialists helped to compile technological maps. The result of work of this link are excellent year after year. Even last year, which was extremely unfavorable in terms of weather conditions, the link gathered 21 quintals of grain per hectare on the entire area, or 5.8 quintals per hectare more than the average on the farm. Labor expenditures per quintal of grain totaled only 0.3 man-hours as compared to an average of 0.5 man-hours on the sovkhoz. Output per assigned tractor and combine rose significantly.

The brigade contract is used successfully in many republics, oblasts, krais and rayons. In 1983 about 100,000 brigades and links worked by this method in plant growing alone. More than 40 million hectares of arable land were assigned to them.

At the same time, the brigade contract requires a rise in the general level of managerial activity and a more efficient organization of economic work. It is important to carefully think out and to correctly substantiate the sizes of brigades and links and their technical equipment, to determine the forms of current advance payments and relations with other subdivisions and services of farms and to ensure a prompt conclusion and a strict observance of contracts of hiring work.

The experience of brigades and links working on the basis of contracts shows that only those that, not in word, but in deed, have the possibility of taking an active part in production management and in the development of plans and technological maps attain high indicators. It is precisely under these conditions that people fully manifest their abilities and actively fight for the fulfillment of the established plans and assignments. The Law on Labor Collectives and Intensification of Their Role in the Management of Enterprises, Institutions and Organizations adopted by the USSR Supreme Soviet in June 1983, which is the first in the history of our state, is directed toward this.

Thus, in the interest of a rise in the economic fertility of soil and a reliable increase in the gross output of all agricultural crops it is necessary to more actively put all factors in farming intensification into operation everywhere and to improve the organization of production and labor and material incentives for kolkhoz members and sovkhoz workers.

The economic fertility of soil also has a number of other, no less important, aspects. The party and the government consider its rise a task of tremendous economic and social significance, on whose accomplishment the successful realization of the Food Program and the well-being of the present and future generations of Soviet people depends in large measure.

The December (1983) and February (1984) Plenums of the CPSU Central Committee again stressed the need for a more efficient utilization of all resources and funds and of the entire existing potential for the fulfillment of the social and economic programs of the 11th Five-Year Plan. The efforts of the workers of agriculture and of the entire agroindustrial complex are now directed, on the basis of intensification, achievements of scientific and technical progress and advanced experience, toward raising the yield of fields and the productivity of farms and fulfilling an additional party assignment--attaining an above-plan growth of 1 percent in labor productivity and a reduction of 0.5 percent in production costs, thereby increasing the contribution to the realization of the country's Food Program.

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AGRO-ECONOMICS AND ORGANIZATIONS

EFFECTIVE CEMA COLLABORATION IN AGRICULTURE ADVANCED

Moscow SEL'SKAYA ZHIZN' in Russian 10 Apr 84 p 5

[Article by Petr Ivashov, candidate of the economic sciences: "CEMA Horizons"]

[Text] The communist and worker parties of the CEMA member countries consider providing for the stable development of the agroindustrial complex [APK] to be one of the most important tasks. Therefore, from the moment of the formulation of CEMA, the economic and scientific-technical cooperation of the socialist community in the area of agriculture and other APK branches became one of the principal directions of its activities. This was reflected in the overall program and in the long-term special cooperative program in the area of agriculture and the food industry.

The putting into effect of the designated measures in the countries of the community has aided in the intensification of agriculture, in the growth of labor productivity and food resources and in the improvement of the structure of the population's diet, in which the relative importance of the consumption of meat and meat products, milk and dairy products, eggs, vegetables and fruit is consistently being increased.

At the same time, there is still inadequate provision for satisfying the requirements of a number of CEMA member countries for agricultural goods and foodstuffs. In consideration of this fact, the session of the CEMA at the 37th meeting in October 1983 approved complex cooperative measures to improve the population's supply of foodstuffs. These measures cover the most important orientations and questions of cooperation in all spheres of the agroindustrial complex and its production infrastructure. Priority is thereby being given to cooperation in developing capital-forming and raw-materials branches of the APK from which the final production of the material and technical base of agriculture, the food industry, the freezing and storage industry and others is formed. The need to supply agriculture with adequate capital arises from the fact that in 1980 the capital-labor ratio of this branch in CEMA member countries ranged from 0.45 to 0.92 of the level of industry taken to be standard.

However, the basis of bases of agricultural production continues to be land, agricultural plants and livestock. Accumulated in the mass of final production is the aggregate labor of the enormous number of APK workers, and

there is seen its economic effectiveness as well as the degree to which the main assignment is completed--satisfying the population's growing requirements for food products.

The measures taken by CEMA member countries include a more rational and effective use of soil-climatic and biological potentials, as well as the genetic stock of plants and animals. In this connection, work will continue in the creation of new varieties of grains, legumes, fodder crops, vegetables, fruit and berries that have better nutritional qualities and that are ecologically stable, meeting the requirements of current industrial technologies. Much importance is given to eliminating losses in agricultural production along the entire way from the fields and farms to the consumers, and also to measures for increasing the degree to which agricultural raw materials are processed. The solving of these great national economic problems will permit an increase of 20 to 30 percent in the food resources of several CEMA member countries in grain, meat, vegetables and fruit.

There are plans for joint efforts to develop the production of new machines and equipment for agriculture, the food industry, the freezing and storage industry and trade. There are also proposals to plan and bring into being storehouses, special means to transport production and a system for the automatic regulation of temperature, humidity and other conditions for storing products, especially highly perishable products.

Complex measures are directed toward the further increase in the production of grain, especially fodder grain (the CEMA member countries are supplied with enough grain for food). The experience of a number of countries shows that increasing the overall grain harvest to 1,000 kg or more per capita makes it possible to meet in full all of the country's domestic grain requirements, including its use for the needs of animal husbandry and to create a reserve. In recent years, Hungary, Bulgaria, and Romania achieved grain production of a ton or more per capita.

For the further development of grain production through complex measures, it is planned, along with the selection and introduction of highly productive varieties, to develop new and improve existing technologies to cultivate grains and legumes through the use of new highly productive grain-harvesting combines that prevent losses. The provision of agriculture with such combines in a quantity that permits a reduction of 12 to 15 days in the harvesting time will allow one to conserve grain that is lost during a harvest period lasting 30 to 40 days.

There are still significant reserves for increasing the grain harvest. The extension of the area for grain corn is quite promising. Favorable possibilities for this have been opened up by the 1981 agreement between the interested CEMA member countries on scientific-technical cooperation in selecting corn with consideration being given to the creation of early-maturing hybrids, in seed development and in the production of corn for grain and silage. The development of early and super-early varieties and hybrids of corn will permit the growing of grain of this type in more northerly regions of the RSFSR and the Ukraine, and in a greater number of regions in the CSSR, Poland and the GDR.

In the complex measures, great importance is given to consolidating the fodder base and to increasing the production of protein of plant and animal origin and of microbiological synthesis. Planned are the development of a new technique and technology for conserving food grain, an increase in the productivity of meadows and pastures, improvement in the preservation and storage of coarse and succulent fodder and the development of measures to cultivate, protect, harvest, transport and store alfalfa, soybeans and other leguminous crops. This will permit an expanded sowing of these crops.

Increasing the production of animal protein goes along the lines of a more rational use of the by-products of food production, an increase in the amount of processing of agricultural raw materials and a greater use of the by-products of agricultural production. An important source of additional protein will be the joint production of the biochemical and microbiological industries--fodder yeast, lysin, vitamins and other feed supplements.

Interaction in solving grain and fodder problems will ensure the further intensification of animal husbandry and an increase in its productivity. And the resolving of these tasks, in turn, will be aided by cooperation in industrial branches of the APK that provide animal husbandry with the necessary technical means, transportation and equipment for the receipt, freezing and long-term storage of the sperm of valuable producers, as well as its delivery to farms. It is notable that for the first time, the complex approach includes the commercial sphere.

Also foreseen is the consideration of the possibility of capital investment by the involved CEMA member countries in countries of the socialist community the export foodstuffs.

The realization of complex measures will be a great new step in the agroindustrial integration of CEMA member countries, and it will help in further increasing the degree to which their population is supplied with foodstuffs.

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TURNING THE RUBLE AROUND - LIVESTOCK HUSBANDRY LEADERSHIP

Moscow PRAVDA in Russian 22 Mar 84 p 2

[Article by Ye. Grigor'yev and G. Ivanov, special correspondents for PRAVDA, Gorkiy oblast: "Economic Problems of Gorkiy Area Livestock Enterprises"]

[Text] S. Karamanov, chairman of the Pobeda kolkhoz, and V. Kosterin, head bookkeeper, were quite worried when they dropped in at the credit section of the Gosbank oblast office. "Look here, help us; we're short of money to pay off the kolkhoz members. The rayon refused us credit." V. Tagankina, the section head, rebuked the managers of the lagging farm: "You shouldn't be working that poorly." But she did let them have the loan...

As is know, the government appropriates large sums for rural areas. In Gorkiy Oblast, for example, the funds supplied to kolkhozes and sovkhozes during the 10th and 11th five-year plans almost doubled.

It is natural to expect the investments will result in a proportional growth of production, and increased with profits. In fact it turned out otherwise. At the start of the 10th Five-Year Plan the "return on capital" amounted to fifty-seven kopeks on the ruble expended, and later this index began to worsen.

Why? Any conversation about the reasons for the slump, no matter where it took place, inevitably began with blaming the weather. But the past year, weather was just right. And there you have it--nearly everywhere there are successful harvests. Plans for the sale of grain, vegetables and animal husbandry production have been fulfilled. And profits have grown.

But is it a matter of weather alone? What of improvement in the management of the agro-industrial complexes, the new purchase prices for farm production, the supplements to aid weak farms? These had a favorable influence on the economy, making it healthier. Yet even in these favorable circumstances, every sixth sovkhoz and a number of oblast kolkhozes worked without a profit. In this past year, 453 million rubles was expended for developing farming, yet the returns on all farming activities were only 377 million rubles. Such a split is too large, even allowing for the investment pay-off period. The miscalculations are especially obvious in the economics of farms. Large-scale projects, for instance, put a burden on production costs.

Local specialists consider that there was too much haste to install them. Look at the Niva sovkhos. It has a solid economic foundation, famous for big harvests and high milk yields. Yet even here, the return on investment is dropping year after year.

The reason? Here it is - it's the dairy division. In starting to build it, sovkhos director N. Grachev told us, they did not investigate the project properly. Afterwards, having examined it, they understood that it was not appropriate for their set-up, being very expensive and unreliable. So everything had to be restructured while it was in operation.

Unfortunately, such situations are not rare. It is good that at the Niva they were able to complete the construction work, even at big expense. But not infrequently enterprises become sources of losses for many, many years. They cannot be brought to projected capacity for prolonged periods. This results in reduction in investment returns or losses.

Who is responsible? As a rule, the sins are attributed to the planners and builders: the former propose the wrong things, and the latter build wrong. There is no argument; a lot depends on them. But the clients, the managers and experts of the enterprise not infrequently show their circumspection rather belatedly.

Or let's take the attitude toward technology. More and more machines are being added on farms. Yet they are poorly utilized. At some livestock farms, it would appear there's an excess of equipment, yet the milkmaids are resentful: almost everything has to be done by hand. Labor productivity declines. But the cost of production keeps on growing. In the oblast, only one-third of the cattle-farms are fully mechanized. Moreover, a considerable part of the equipment is in disrepair.

This is why the ruble does not give returns, as it is supposed to, in the form of receipts and profits. A considerable amount of loss to the sector results from unbalanced herd structure and miscalculations in its reproduction rate. And, of course, there are deficiencies in feed preparation, a weak forage base, and even stored feeds are dispensed uneconomically. On average, 1.4 feed units are expended per kilogram of milk. Yet 1.2 units are sufficient. Meanwhile, these two-tenths could save a total of 300,000 tons of feed units throughout the oblast.

Rivers of losses result from the rivulets of waste. In the past and current five-year periods unproductive expenditures and losses in animal husbandry amounted to hundreds of millions of rubles. This is not just mismanagement. The level of economic effort is also low in kolkhozes and sovkhos.

Reduction of production costs and recovery of expenditures is usually the last item on the agenda. Cost accounting is often mastered only on paper. Brigades are assigned conservation measures, but the results are summed only from time to time. Or else they "forget" to provide an [economic] incentive to the person who treats resources with care and to penalize the wastrel financially.

What are the farm managers and experts counting on? On loans and outside aid. They appeal to the bank at any time, since, after all, credit is available to everyone. This way many kolkhozes and sovkhozes cover their derelictions and mismanagement. In everything one sees that in the oblast, no one is rushing to bring about strict order: if you get a loan, pay off the old debt. Sometimes, the construction of a livestock complex isn't too well-justified economically. But it gets built. Or a machine that is not needed, but is bought all the same.

This means that controls are inadequate. Local party and soviet organs participate inadequately in the core processes of the economy. For example, such an important question as the yield of capital funds was not discussed in recent years at the plenums of the party oblast committee nor the sessions of the Oblast Soviet. Oblast scientific institutions are also far removed from urgent economic problems and have failed to supply practitioners with reliable recommendations. For example, there is no clear program for utilizing capital investments. This results in the imbalance.

Even recently the lion's share of resources was directed to farm construction, while only crumbs went to feed base development, mechanization of labor-intensive processes, and social needs. The disproportion is currently being reduced. More investments are being made for housing and social and cultural service items. But the feed base continues to lag badly behind the needs of the sector. Forage and production is still meager and yields little more than 100 quintals of silage and root-crops and 20 to 24 quintals hay from perennial grasses. The breeding stock needs to be seriously improved; so do production technology and effectiveness. This means that investment planning must be more flexible.

Economics is not only a matter for economics. Every rural worker, whether a tractor operator or manager of a farm sector, is duty bound to make sure that the section of production entrusted to him operates effectively. But for some workers capital investment and production costs have ceased to be an everyday concern.

I remember a conversation with the Dalnekonstantinovskiy RAPO [Rayon Agro-industrial Association] soviet chairman, K. Denisov. When the talk was of harvests and milk yields, he cited figures from memory. When interest was shown in capital yield and distribution, the soviet chairman got embarrassed. He couldn't remember. Yes, indeed, he'd have to ask the economists. A most noteworthy episode. There will be severe consequences for disrupting the sales plan. In case of high production costs, in the worst case there'll be only a reproach. Or else they won't even notice such a miscalculation.

Of course there are many farms where the rubel provides a full return. It is enough to look at the experience of the Imeni Kuybyshev and Krasnyy Mayak kolkhozes of the Gorodetsk Rayon, and the Imeni Lenin and Vernyy Put' of the Semenovskiy Rayon. Here they systematically increase production while simultaneously achieving a decrease in costs. And they live not on loans but on their own means. For example, the Imeni Kuybyshev kolkhoz, Its chairman M. Treushnikov tells me:

"Before spending money, we'll take measurements seven times, as the saying goes, and cut the cloth only then. The approach is simple, but it helps us out..."

Alas, far from all the managers put their means to use skillfully. How then is the advanced experience of efficient operations get disseminated? What do the party obkom and the oblispolkom undertake in order to inculcate modern economic thinking among rural workers? We were told: "A conference is slated with experts on this topic." Yet an economic "climate" is shaped primarily out on the field and on the farm. Meanwhile, only a very limited number of kolkhozes and sovkhoses has assimilated cost accounting. In the majority of places economic work is neglected. Not a single rayon, except perhaps Arzamasskiy Rayon has a concrete program for lowering net production costs and increasing the return on investment. Labor pay and incentives at Arzamasskiy Rayon depend entirely on the stockbreeders' work quality and expenditures for feed and equipment. This experience is interesting and instructive. But it is outside the field of vision of the rayon and oblast agro-industrial associations. Yet who more than they should be helping the farms to organize their economic effort.

In conversation with us, one of the kolkhoz bookkeepers remarked that the ruble should always be capitalized in writing. "This is not a matter of spelling," he said. Each ruble contains a bit of our joint labor. So, please respect it."

A fair statement.

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AGRO-ECONOMICS AND ORGANIZATION

ECONOMIC EFFICIENCY OF UZBEK AGRICULTURE EXAMINED

Tashkent EKONOMIKA I ZHIZN' in Russian No 1, Jan 84 pp 70-72

[Article by N. Aleyev, reporting from Shakrisabz, Nishan, Akkurgan and Fergana Sovkhoz: "What, How Much and Why? Reflections on the Economic Effectiveness of Agricultural Production"]

[Text] What, how much and why are the most important questions in our economy. Why, for example, when the amount of equipment available to collective farms and state farms has risen substantially and there has been a considerable increase in deliveries of mineral fertilizers, have the profitability of cotton growing been declining and some previously profitable farms started to operate at a loss?

Consider, for example, Shakhrisabzskiy Rayon, which is located in the old irrigation zone and at one time was renowned for its large harvests and substantial profits from cotton growing, whereas now-- Now the economic picture there is dim: On most farms the average selling price of a quintal of cotton is the same as its unit-cost, or just a ruble or two higher; i.e., they have difficulty making ends meet. And in Nishanskiy Rayon, another rayon in Kashka-Darya Oblast, the situation is even worse. On the State Farm imini Chula Begimkulov--the pioneer in virgin-land cotton growing, which long since should have been providing a return on the millions that the state has invested in it--the unit-cost per quintal of raw cotton is 84 rubles, whereas the average selling price is 64 rubles, 37 kopecks. This means that the state loses nearly 20 rubles a quintal. All the state farms in this rayon operate at a loss.

Let's try to examine the question of the profitability of agricultural production at the elementary level. We plant a cotton seed or grain of corn in the earth--and not by hand, but with a high-precision planter--from that seed or grain we get a plant with a dozen full bolls or ears, and we gather the harvest--once again, not by hand but with combines. From a single seed a handful of cotton, and from a single grain and ear. Yet in the final analysis we end up at a loss?! A paradox!

Try to find an intelligible answer to the following economic puzzle: From each of 400 hectares of corn, where the planned yield is 47 quintals, 70 quintals of grain is harvested, or 2,800 quintals is harvested from the entire

area; furthermore, the unit-cost turns out to be 85 kopecks, which is lower than the planned 107 rubles. And what do you think the end result is? A loss of 139,000 rubles! These are last year's indices for corn growers on the Zarbdarskiy Rayon Lenin Yuly State Farm in Dzhizak Oblast. It was a perfectly decent crop yield, and outlays were within rational limits, so how did such a tremendous loss come about? The only thing left is to guess: Were those hectares really sown to corn, or had they been sown to cotton and then used to write off every conceivable sin of poor farming? There is every reason to make this guess, since neither Y. Erkayev, the state farm director, nor S. Karabayev, the chief economist, can explain who got the nearly 3,000 tons of corn that was supposedly obtained on the farm or at what price they got it.

And how many of the same sort of puzzles are there in animal husbandry? Some major economist wittily observed that even raising penguins on Antarctica should theoretically be a profitable business. After all, every pair produces a young penguin, so where there were two, now there are three. But on most of our collective farms and state farms dairy farming is unprofitable. Every cow produces a calf and from 2,000 to 2,500 liters of milk a year. Yet it is still unprofitable?

The standard explanation is the shortage of feed. Yet the number of animals kept should be based on the availability of feed. It is folk wisdom that the same amount of feed will produce more milk and meat if fed to a smaller number of animals than if divided among a substantially larger number of underfed animals.

Many farms where animal husbandry operates at a loss obtain 100 quintals of corn per hectare and as much as 200 quintals of alfalfa per hectare (as converted to dry hay). These are excellent yields, and in combination with one another these crops produce a feed that is splendidly well balanced in terms of protein. But the usage of feed per kg of milk and added kg of live-stock weight is two to three times, and even as much as five times the norm. This is why there is a feed shortage.

As far as cotton growing is concerned, I think that the experience of the virgin-land Fergana State Farm in Akaltynskiy Rayon, Syr-Darya Oblast, is valuable. Since that farm first began operations the director has been Sabirdzhan Siddikov (who is now general director of the Akaltyn Territorial-Production Association), Hero of Socialist Labor, a hereditary Uzbek peasant, a war veteran and talented organizer of agricultural production. Here are that state farm's overall economic indices for 1982: unit-cost of cotton--45 rubles, 55 kopecks per quintal; average cotton price--70 rubles, 6 kopecks. So profit was 24 rubles, 51 kopecks per quintal. Splendid economic effectiveness!

It is said that it is impossible to do well in agriculture year after year, but this state farm has raised its crop yield every single year and obtained excellent economic indices. During the 10th Five-Year Plan, the farm's famous collective was four-time winner in all-union socialist competition, increasing its cotton yield by 11 quintals per hectare and raising its net profits

from cotton growing to 5 million rubles. Last year, 1983, was a difficult one for the republic's farmers, but the Akaltynskiy farmers once again excelled-- in mid October they became the first to fulfill their cotton procurement plan. What is the essence of this remarkable experience?

I recall standing with Sabirdzhan Siddikov at the peak of the cotton harvest on the edge of field looking at an endless column of buses filled with city dwellers moving along the road.

"What is the essence of our experience?" asked Sabirdzhan, repeating my question. "You see," he pointed to the road. "They're all bypassing our state farm. We long since quit using outside helpers. That's the main thing."

You can count on your fingers the number of farms that manage the cotton harvest using their own manpower: the 40 Let Oktyabrya Collective Farm in Bukinskiy Rayon and two other farms in the same rayon, which were mentioned at the recent plenum of the Uzbek CP Central Committee; the Collective Farm imini Akhunbabayev in Srednechirchikskiy Rayon and two or three other collective farms that have been moved to the Fergana Valley. I dare say that is all. Among the virgin-land farms, so far the Fergana State Farm in Golodnaya Step is the only one, the first swallow.

Some people reason about such experience as follows: They say that a single swallow doesn't make a spring, that it's arrived too early, and that we aren't ready for such a sharp turn.

No, if it's come, then it's not for naught, and it means that spring really is approaching. The experience of the Fergana virgin-land farm is a noteworthy fact.

How did we conceive and how do we now conceive the final transition to the comprehensive mechanization of cotton growing? The plowing and leveling of fields and planting have long since been fully mechanized. What is left is combatting weeds and gathering the harvest. As far as the destruction of weeds is concerned, it is clear that there will be good herbicides and the problem will be solved. The main thing is gathering the harvest, which takes a good half of all outlays in cotton growing: Mechanizing the harvest to the utmost means completing comprehensive mechanization and, on this basis, sharply improving the profitability of cotton growing. In principle, this is true, but practice is a different story.

From the standpoint of the volume of machine harvesting, Akkurganskiy Rayon, for example, looks very good. About 77 percent of the harvest on the Collective Farm imini Kyubyshev and about 94 percent of the harvest on the State Farm imini Segizbayev there are already unloaded from combine hoppers. However, every single year more and more helpers are recruited for the harvest, and in the final analysis the economic effectiveness of cotton growing has been declining.

Two years in a row, in 1982 and 1983, I visited the State Farm imeni Navoi in that rayon. The farm is a seed producer, which means that the first harvest

is gathered manually, and then the machines are put to work. But on many fields weeds were growing densely above the cotton plants, and these weeds are supposed to be cleared before the cotton is machine harvested. That is why when the combines started harvesting, the ground between the rows turned white with cotton bolls that had been knocked to the ground. A great deal of cotton never makes it to the combine hoppers there--so much that there is plenty of hard work for more than 2,000 city dwellers over the course of more than two months. Such is the customary, deeply rooted style of farm management.

And is the collective contract being introduced on that collective farm? After all, the experience of many collective farms and state farms in the republic shows that contract brigades and teams have a stake in relying on their own manpower to harvest everything they have grown and usually attain their goal. However, U. Israilov, the collective farm's chairman, is indifferent to the brigade contract: he cites the opinion of his chief economist and claims that the latter keeps well informed about what is going on.

No, even the chief economist S. Saidakbarov is not well informed. The collective farm does have two or three contract brigades, but he does not know how they have been performing. On the other hand, he knows very well about the productivity in manual cotton harvesting of the helpers who are brought in from Tashkent's Chilanzarskiy Rayon, since it is not the farm's own contract brigade members but the city dwellers who make the difference on that state farm. But here is what is strange: according to report figures, this farm does better in terms of machine harvesting than many other farms--84 percent of the harvest. So these percentages are meaningless. What's another matter is the clear and precise criterion: do you handle the harvest on your own, or do you place all your hopes on help from the city?

Not all the republic's collective farms and state farms are ready yet to give up recruiting outside helpers, but if a major virgin-land farm has been able to do without outside help for a number of years, it is long past time for the cotton growers in the old, thoroughly settled Akkurganskiy Rayon to think about new ways to raise the economic effectiveness of their work. The problem, however, is that even now many people on the aforementioned and other farms in that rayon have not even heard about the experience of the Fergana State Farm in Golodnaya Step.

"Our state farm is now considered the leading farm not just in Golodnaya Step but in the whole republic," says Sabirdzhan. "But we didn't begin with victory reports. At that time the Savay and Malik state farms and State Farm imini Pyatiletiya Uzbekskoy SSR were renowned for their successes. Fergana had a long way to go to reach them. But we began correctly--with Lenin's slogan: 'study, study and study more!' For example, take the machine harvesting of cotton. Our state farm had the same sort of equipment and the same sort of farm machinery operators as the leading farms, but they were successful and we weren't. We didn't immediately understand that they strictly adhered to the rule that what was sowed and tilled must be harvested.

Furthermore, we had not yet managed to establish the proper organization for raising and gathering the harvest on our farm. That's just one example."

They worked persistently to master the leading farms' experience and studied all their nuances and secrets. In the process of this study and in the process of introducing innovations, cadres of specialists and brigade leaders seemed to select themselves of their own accord. Those who did not want to learn to work on the level of today's requirements quit or were forced to leave.

In successful experience everything is interconnected and interdependent, and in order to understand its essence, you have to follow the entire chain. Let's start with the main link--farming techniques. But first a few words about varieties.

On the Fergana State Farm in recent years almost the entire area has been sown to Akaltyn. Why precisely this variety, which is not yet widespread? It is an early-ripening, high-yield variety that produces an excellent fiber and has a higher procurement price than the Tashkent varieties. Everything is important, but when you set the task of gathering the harvest with your own manpower, the quality of early ripening is especially important. After all, delayed ripening means a delayed harvest, and then you are forced to ask for outside help in the face of oncoming bad weather whether you want to or not. The new variety provides the farm with early, simultaneous, abundant shoots.

Yet what matters is not the variety in and of itself but the variety in combination with correct tactics and strategy: as you sow and cultivate, thus will you harvest.

Planting is begun at the optimal time: when the earth is ready. But here the planting is not completed over the course of a month, as it is on some farms, but in a maximum of 10 to 12 days for the entire 5,000 hectares sown to cotton. Add to this the precise placement of seeds with respect to both depth and distance from one another. During the period in which the plantings are tended, the soil is cultivated deeply and in wide paths, the fields are irrigated evenly, and precise amounts of mineral fertilizers are applied in top dressings. Everything is geared to the cotton harvesting machines that will take to these fields in the autumn. This is why the results of mechanized harvesting are as follows: average output per combine is approximately 140 tons, and over 90% of the gross harvest is taken by machine.

"The trouble that many farms have," notes Siddikov with reason, "is that their executives do not remember about machine harvesting until the bolls have already started to open. They do not form the harvest purposefully; they prepare their harvesting machinery carelessly; and then they urge the machinery operators to take all they can. They hastily grab part of the harvest with the machines and knock most of it to the ground, so the harvest drags on until snowfall. And what does a protracted harvest mean? In addition to the invariable loss of part of the harvest, it means a sharp decline in the quality of the raw cotton and a rise in the unit-cost of output. So then it comes

time to reckon--what, how much and why?--right up to and including the point of negative profitability.

Why is it that some collective farms and state farms are successful every year, regardless of weather conditions, while other do more poorly? To answer this question would mean to analyze one's own mistakes and failures honestly, in an economically intelligent fashion. To resolve it would mean making a new step in economic development. To learn not just to count but to think economically, i.e., to know ahead of time what will bring a profit and what will bring a loss, in order to conduct affairs efficiently and profitably according to the principle: more, better and with fewer outlays. This is the command of the times and the essence of the major turning in all of our economy toward intensive methods of economic management.

What, how much and why? This is the question that we all should ask as often as possible and, what's most important, should ask with a greater sense of responsibility, because the fulfillment of the Food Program and improvement of all branches of agricultural production are the job of the people as a whole.

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DIFFERENTIATION OF PURCHASE PRICES EXAMINED

Omsk ZEMLYA SIBIRSKAYA, DAL'NEVOSTOCHNAYA in Russian No 4, Apr 84 pp 3-10

/Article/ by A. P. Balashov, director of a sector of the Siberian Scientific Research Institute of Economics of Agriculture, candidate of economic sciences: "Improvement in Purchase Prices"

/Text/ In the last few years the differentiation of purchase prices has been the basic economic tool of creation of more equal financial possibilities in management. Out of 18 oblasts, krays and autonomous republics in Siberia and the Far East at the beginning of the 10th Five-Year Plan the intrazonal differentiation of prices was made as follows: of grain, in five (Novosibirsk, Omsk, Tyumen and Amur oblasts and Krasnoyarsk Kray), of milk, in 14 (apart from Kemerovo, Chita and Kamchatka oblasts and the Tuva ASSR) and of cattle, in five (Omsk and Magadan oblasts and Krasnoyarsk, Maritime and Khabarovsk krays). In 1979 the differentiation of the prices of milk was made in Kemerovo, Chita and Kamchatka oblasts and the differentiation previously introduced in Omsk and Tomsk oblasts, Krasnoyarsk Kray and the Buryat ASSR was abolished.

When purchase prices were improved in 1981, price zones and the correlations of prices among them were partially revised and differentiated prices of milk were newly introduced in Omsk and Tomsk oblasts and Krasnoyarsk Kray. With respect to other products uniform prices were in effect in oblasts, krays and autonomous republics, with the exception of special prices established for the Far North and high-mountain regions. Whereas in some purchase prices were differentiated for three or four basic commodity products, in others, only for one. For example, in 1979-1982 differentiated purchase prices of milk, wheat, rye, oats and barley were in effect in Novosibirsk Oblast and of milk, cattle, wheat and rye, in Omsk Oblast. Conversely, only milk prices were differentiated in Altay Kray, Tyumen, Tomsk, Irkutsk and Sakhalin oblasts and the Buryat and Yakutsk autonomous republics. In Novosibirsk and Omsk oblasts the differences in prices between neighboring zones reached 13 and 31 percent respectively and in Sakhalinsk and Kamchatka oblasts and the Maritime Kray they did not exceed 2 to 6 percent, basically, being of a symbolic nature.

As a result of the price differentiation in Novosibirsk and Omsk oblasts 8 to 12 million rubles were annually redistributed in favor of farms located in regions with less favorable conditions and the differences in the profitability of products among zones were lowered. For example, in Novosibirsk Oblast

in 1979-1980 the profitability of milk production was as follows: in the first zone, 10 percent, in the second, 13 percent and in the third, 12 percent and of grain, 43, 56 and 55 percent respectively. With uniform prices for the oblast in the first zone milk would have been unprofitable (3 percent) and in the second and third, profitable (13 and 21 percent) and grain profitability throughout zones would have comprised 34, 56 and 66 percent. However, in the oblast there was no differentiation in the prices of cattle, which occupied about 30 percent in the structure of the proceeds from the sale of agricultural output, although the differences in the standard production cost of gain reached 30 to 40 percent. Throughout production the differences in combined profitability after the differentiation of purchase prices changed negligibly. In the group of farms included in the first zone with respect to grain and milk in 1979-1980 unprofitableness from the sale of agricultural output comprised 2 percent and in the third zone profitability reached 26 percent. Before the price differentiation in 1973-1974 in this totality of farms in the first group unprofitableness was 5 percent and in the third group profitability was 25 percent.

In Omsk Oblast the differentiation of the purchase prices of cattle also did not have a marked effect on the equalization of financial possibilities of management, because the coefficient of price differentiation did not reflect the differences in the expenditures on their production. The differences in prices between extreme zones were established at the rate of 6 percent, whereas the differences in the production cost of a unit of output in administrative regions reached 80 percent. In the final analysis, throughout production the recovery of expenditures in groups of farms ranged from 60-70 to 130-140 percent, that is, the differences in the efficiency of expenditures reached a double magnitude.

As we see, even in Novosibirsk and Omsk oblasts, that is, where prices were differentiated more systematically, big differences were observed in the financial possibilities of expanded reproduction among farms of different zones. In other oblasts, krays and autonomous republics of regions the differences in the combined profitability of kolkhozes and sovkhoses having better and worse conditions of management are more significant. Under these conditions the CPSU Central Committee and the USSR Council of Ministers in their decree approved by the May (1982) Plenum of the CPSU Central Committee considered it necessary to raise the purchase prices of basic agricultural products and to introduce price markups for output sold to the state by low-profitability and unprofitable kolkhozes and sovkhoses. Substantial funds were allocated for price markups to individual oblasts, krays and autonomous republics: 151 million rubles to Altay Kray, 101 million rubles to Omsk Oblast, 102 million rubles to Krasnoyarsk Kray and so forth. These measures determined the need for new methodological and methodical approaches to an intrazonal differentiation of purchase prices, because price markups should be considered some of the economic levers of equalization of financial possibilities of management of kolkhozes and sovkhoses. Therefore, a regular improvement in the purchase prices in the region was made simultaneously with the establishment of markups in every oblast, kray and autonomous republic with due regard for local characteristics. In this respect the work done on improvement in prices in Omsk Oblast is of definite interest.

A regular improvement in purchase prices there was directed not only toward the equalization of financial possibilities of management, but also toward a change in the correlation of prices among individual products. The latter is due to the fact that at the new prices and production cost formed in 1979-1981 the profitability of basic commodity plant products (grain and vegetables) exceeds 80 to 100 percent. At the same time, most livestock products are unprofitable or have a low level of profitability. Therefore, a differentiation of purchase prices was made for plant products and different amounts of markups were established for livestock products.

When price zones for grain were formed, the following characteristics were taken into consideration. The oblast's territory extends from the north to the south and is divided into four natural and economic zones, that is, northern, northern forest-steppe, southern forest-steppe and steppe zones. The differences in the quality of soil, climate, provision with capital and labor resources and so forth among them are pronounced. These differences determined the different expenditures on grain production. On the average, in 1977-1981 the production cost of 1 ton of grain was as follows: in the northern zone, 124 rubles, in the northern forest-steppe zone, 97 rubles, in the southern forest-steppe zone, 64 rubles and in the steppe zone, 61 rubles. Within natural-economic zones the differences between regions and farms in the expenditures on the production of 1 ton of grain are less pronounced. Therefore, price zones for grain crops were formed strictly according to natural-economic zones. It is clear that not all farms will have equal economic results from the sale of grain. However, these differences can be compensated by price markups.

The level of purchase prices was determined on the basis of the standard cost of production of 1 ton of grain in a zone, the necessary amount of profit and the stimulation of the production of strong and durum wheat varieties in steppe and southern forest-steppe zones. All calculations were performed on the basis of the average level of the purchase price established for the oblast and the volumes of purchases in zones (table 1).

The prices of rye were also differentiated on the basis of the standard production cost, profit and the need for the stimulation of its production in northern and northern forest-steppe zones. Purchase prices per ton of rye were established as follows: in the first zone, 200 rubles, in the second, 123 rubles, in the third, 106 rubles and in the fourth, 93 rubles.

The purchase prices of potatoes, vegetables and other plant products were not differentiated owing to the fact that the production of these products was concentrated mainly in a small group of farms in the suburban zone. For example, more than 90 percent of the purchases of vegetables are made in the Omichka Association. A total of 75 percent of the potatoes are purchased in the southern forest zone, including about one-half in Omskiy Rayon. The proceeds from the sale of other plant products are of negligible importance in the economy of the oblast's kolkhozes and sovkhoses.

When purchase prices of livestock products were improved, the following characteristics were taken into consideration. For hogs, poultry and eggs price markups were not established, nor were prices differentiated. This is due to

the fact that the production of eggs and poultry is concentrated on the specialized farms of the Administration of the Poultry Raising Industry and of hogs, at the Omskiy Bekon Association (86 percent).

Table 1. Differentiated Purchase Prices of Wheat in Omsk Oblast

Zones	Standard production cost per ton, rubles	Purchase price per ton, rubles	Coefficient of price utilization, 1981-1982	Profitability (in relation to production cost), %	
				standard	actual in 1977-1981
Northern	83	189	1.00	128	52
Northern forest-steppe	77	164	1.18	151	100
Southern forest-steppe	60	128	1.20	156	140
Steppe	57	114	1.26	152	135
In oblast	59	121	1.24	154	108

The purchases of milk and livestock are made on most farms in the oblast. However, the differences in the production cost of these products in natural-economic zones and regions are less pronounced than in the production cost of grain. In 1977-1981 the production cost of 1 ton of milk in the northern zone was 271 rubles, in the northern forest-steppe zone, 278 rubles, in the southern forest-steppe zone, 256 rubles and in the steppe zone, 254 rubles and of 1 ton of gain in cattle, 2,041, 2,040, 1,860 and 1,840 rubles respectively. At the same time, the differences in the production cost of milk and cattle in regions reached 30 to 40 percent and in groups of farms, 75 to 90 percent. However, the low level of profitability of these products also remains with the new purchase prices (without taking markups into consideration), which points to the inexpediency of price differentiation. As calculations have shown, with the funds allocated for price markups it is possible to ensure profitable production of these products and a certain amount of profit for expanded reproduction for most farms.

Price markups were established in the following manner. At first a list of low-profitability and unprofitable farms--with a calculated combined profitability below 10 percent--was formed. After the evaluation of natural-economic conditions (quality of land, climatic characteristics, provision with capital and labor, location and so forth) and the determination of standard expenditures on the production of some agricultural products several farms were eliminated from this list. As a rule, farms in northern and northern forest-steppe zones specializing in the production of milk and cattle were included in this list. Basically, farms in steppe and forest-steppe zones, mechanized poultry farms, complexes for pork production and so forth, whose calculated combined profitability ranged from 10 to 60 percent, were not included in the list for the establishment of price markups.

On the basis of combined profitability and natural-economic conditions low-profitability and unprofitable kolkhozes and sovkhoses were placed in six groups with an interval of 10 percent and price markups were calculated (table 2).

Table 2. Amounts of Purchase Price Markups in Groups of Farms in Omsk Oblast, %

Output	Groups of Low-Profitability and Unprofitable Farms					
	first	second	third	fourth	fifth	sixth
Milk	-	10	20	40	55	75
Cattle	20	20	35	35	70	75
Wool	10	10	25	40	-	-
Sheep	10	10	25	40	-	-

Work on improvement in purchase prices was done more systematically in Novosibirsk Oblast. There prices were differentiated for milk, wheat, rye, oats, barley and hogs and price markups, for cattle, milk, wool and hogs. In contrast to Omsk Oblast markups were established in four groups of farms in the same amount for all products. Their amount from the first to the fourth group ranged from 10 to 60 percent.

Positive work on improvement in purchase prices has been done in a number of other oblasts, krays and autonomous republics in the region.

Thus, as a result of the increase in purchase prices, their differentiation for individual products and the establishment of price markups for output sold by low-profitability and unprofitable farms, conditions for the strengthening of the economy of all kolkhozes and sovkhoses having both better and worse conditions have been created in most oblasts, krays and autonomous republics in Siberia and the Far East.

However, the illusory idea that an increase in the efficiency of operation of kolkhozes and sovkhoses can be ensured only by means of prices cannot be tolerated. A stable growth of production can be attained on the basis of a systematically implemented entire system of measures. The value proportions of exchange should be closely connected with physical-material proportions and they are directed primarily toward the elimination of existing disproportions among resources for the purpose of increasing the efficiency of their utilization.

With the entire importance of the implemented measures for improvement in purchase prices the growth of production and improvement in the quality and reduction in the production cost of output are the main factors in the increase in the income of kolkhozes, sovkhoses and interfarm and agroindustrial formations.

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FORESTRY AND TIMBER

GOSSNAB OFFICIAL ON SECONDARY TIMBER RESOURCE USE

Moscow MATERIAL'NO-TEKHNICHESKOYE SNABZHENIYE in Russian No 3, Mar 84 pp 37-40

[Article by P. Reutov, chief of the Timber and Paper Industry Administration of the USSR State Committee for Material and Technical Supply: "A Comprehensive Program for the Use of Lumber"]

[Text] The work of the logging sector in recent years has given rise to many reproaches. It has not been coping with the meeting of the needs of industry, construction projects and agriculture. In recent years the amounts of round timber has decreased sharply. But as a result of the change of the structure of production of the sector the accounting balance of wood is steadily increasing. Such an indicator, of course, cannot give satisfaction. The point is that the capacities for the production of substitutes of commercial lumber and advanced materials are making it possible to increase the proportion of substitutes to 40 percent.

Things are especially bad with the production of cardboard, particle and fiber board, the products of hydrolysis, that is, the products of the works, for which lumpy and soft wood scraps, low quality cut logs and blocks serve as raw materials. The increase of their output is economically justified and expedient from all points of view. But, unfortunately, it has to be stated that the use of the capacities of such works leaves much to be desired. Too few particle boards, for example, are being produced at the enterprises of the Soyuzfan-spichprom All-Union Industrial Association and at the Soyuzplitprom Association of the USSR Ministry of the Timber, Pulp and Paper, and Wood Processing Industry.

Only two-thirds of the capacities for the production of fiber boards at the Soyuzplitprom Association are being used. There are many reasons for this at the association. The inadequate attention of our territorial organs to the timely supply of enterprises with chemical components, wood raw materials, spare parts and equipment is playing a significant role.

The question of the delivery of raw materials to the plants, which carry out the thorough processing of wood, is not simple, since the tendency to process blocks and cut logs instead of scraps has still not been eliminated. The workers of the USSR Ministry of the Timber, Pulp and Paper, and Wood Processing Industry, who are engaged in lumber supply in the sector, systematically turn to the USSR State Planning Committee with requests on the replacement of the

allocated stocks of wood scraps for the production of boards with technological raw materials.

Such a position of the USSR Ministry of the Timber, Pulp and Paper, and Wood Processing Industry could not but affect the activity of the enterprises which, taking advantage of the poor monitoring on the part of the state timber inspectorates and territorial supply organs, processed in 1982 many millions of cubic meters of technological raw materials, although they should have used wood scraps. Meanwhile for the increase of the production of advanced substitutes of commercial lumber at the existing capacities a sufficient amount of raw materials is available.

Not only the unsatisfactory use of wood scraps for technological needs is causing the state great losses. Much of what is called "negligible" raw materials--branches, brushwood, small-dimension trimmed logs and trunk debris--is being left at the felling area.

I happened recently to visit the lower riverside yards of Krasnoyarsk Kray--on the Angara and Yenisey, at the sites of the crosscutting of trimmed logs. Here the top part of the trimmed logs with a length of up to 3 m is carried away by the spring high water to the ocean. This is occurring through the fault of the managers of the Angarles Association. They are not ensuring the delivery of these materials to consumers, who could use them for the obtaining of a short pit prop and pulpwood or processing into chips.

The sawmill and wood processing combines of the Krasnoyarsklesoeksport Association are not concerned about the jointing and gluing together of lumber. This is explained by the fact that overstated rates of consumption have been established for them. The scraps of export lumber with a length of up to 60 cm, which are formed when fulfilling the set specifications on length, are not used.

Much wood is being hauled to the dumps by the enterprises which are served by the Western Siberian Main Territorial Administration. In the economic region in case of the procurement and processing of timber a large amount of wood scraps, of which a large portion is hauled to dumps or is burned in furnaces of boiler houses, is formed annually. But it is a question of most valuable materials, which could become good raw materials for the further development of the microbiological, hydrolytic, board, cardboard and other types of works.

A stepped-up program of the production of advanced materials and effective substitutes of commercial lumber has been established for this year. As compared with last year the volumes should be increased by 12 percent. The value of this program lies in the fact that it is being fulfilled mainly by means of the further commitment to the national economic turnover of wood scraps and low-quality wood--firewood.

The time, when ministries and departments should revise their attitude toward timber resources, came a long time ago. The Ministry of the Timber, Pulp and Paper, and Wood Processing Industry should draw up a master plan of the use of the entire amount of wood scraps, which is available in the country, without excluding the bark, brushwood, coniferous and deciduous greens. For this, of course, it will be necessary to build at the sites of their formation

additional processing capacities. For the fulfillment of such an extensive program the USSR State Planning Committee and the USSR State Committee for Material and Technical Supply need to envisage in the annual plans the furnishing of logging and wood processing enterprises with all the necessary equipment, and especially specialized transport for the hauling of wood scraps and technological chips.

Of course, the reserves of economy are far from confined to the development of the production of advanced materials, although it must be admitted that this is the main direction in the economy of lumber products.

When studying the problem of the consumption of timber in construction, it is impossible not to note that at present about one-third of the valuable materials are being used for the production of enclosures, supports for excavation and earth moving, for fences and other purposes. Use of just stock concrete forms and efficient designs of enclosures can decrease significantly the needs for timber. The chemical treatment (antiseptization) of pillars, components of wood house building, foundation floors and floors between stories by means of the lengthening of their service life also decreases the consumption of valuable resources.

However, at present the materials, which are being used in industry and at the construction site of various structures, are antiseptized extremely rarely. But this increases the service life of items made from timber by 2.5-fold and makes it possible by just one such operation to save annually millions of cubic meters of wood.

In a number of cases antiseptization is a mandatory condition. Otherwise the most serious consequences are possible. An example of this is what happened at one of the gymnasiums in Moscow Oblast. The construction workers laid the floor made of wood boards, without having treated them in advance with the appropriate chemical compound. They aggravated their serious mistake by the fact that they did not worry about the laying of ventilation ducts. As a result after a little more than 2 years the wood floor turned out to be affected by dry rot and became unserviceable. It was necessary to seek and allocate a second time flooring strip for the restoration of the sports structure. The materials on the case were sent to the organs of the prosecutor's office for calling the guilty parties to account, but it will hardly be possible to make up for the damage which was caused by negligence.

Not only construction workers allow waste and a thriftless attitude toward valuable lumber materials. Unfortunately, it is still possible to see enormous piles of wood at lower railside or riverside yards. Lumber materials are at a standstill for a long time and become useless from rain and snow at the places of their use. In most cases the USSR Ministry of the Timber, Pulp and Paper, and Wood Processing Industry, the workers of which are not taking timely and effective steps on the crosscutting of trimmed timber, is guilty of this. It is infected with fungous diseases and is exposed to damage by insect pests.

The ministry in such cases tries to place all the blame on the railroad workers, who do not supply the necessary number of cars and do not ensure the timely unloading of the railside yards. Perhaps this is the case, but it is impossible to justify the loss of timber by any references.

It is easy to calculate the harm which is done to the state by mismanagement of this sort. The "storage" of trimmed logs at the yards in stacks if only for 1 spring or summer month increases the losses of commercial lumber by not less than 4 percent. By the beginning of April of last year millions of cubic meters of trimmed logs were at the yards of logging and wood processing enterprises. By July their "stocks" had been reduced by one-third. During the first half of the year the enterprises of the USSR Ministry of the Timber, Pulp and Paper, and Wood Processing Industry had allowed large losses of commercial lumber. They came to more than 4 percent of the planned ones, these are mainly raw materials for sawing. Things are especially unsatisfactory at the enterprises of the region of activity of the Far Eastern, Eastern Siberian, Komi and Western Siberian Main Territorial Administrations.

It is not, obviously, a secret that logging is very labor-consuming. Fourfold more labor than on the average for the national economy is spent per 1,000 rubles of commodity production which is obtained by the enterprises of the USSR Ministry of the Timber, Pulp and Paper, and Wood Processing Industry. The degree of mechanization in the sector is increasing slowly, about half of the operations are performed manually. Under these conditions any squandering of assets and materials is especially intolerable. When the production of output comes with such difficulty, a strict policy of thrift should be observed.

Meanwhile, as the examination of the questions in the Interdepartmental Commission for the Economy and Efficient Use of Material Resources showed, in just 1 year the industrial enterprises of the Soyuzplitprom and Soyuzfanspichprom Associations, which specialize in the production of advanced and efficient lumber materials, failed to use nearly 450,000 m³ of wood scraps. They were replaced by round timber, which was taken in excess of the stocks. These associations regularly released lumber materials to unfunded consumers and private individuals and committed other violations. And as a result they did not fulfill the production plan.

The organizations and institutions of the USSR State Committee for Material and Technical Supply, and first of all the State Timber Inspectorate of the Timber Products Main Administration, have an enormous field of activity in the efficient use of timber resources. Last year its workers checked hundreds of enterprises and at each of them identified serious violations: the release of lumber materials without orders, the overspending of assets on repair and operating needs, the overstatement of the rates of consumption, the spoilage and unfounded writing off of products. Lumber materials worth many millions of rubles were diverted for unplanned needs, while only a little more than 15 percent of the shown amounts were recovered.

Why is this happening? Because in many cases the offenders are granted amnesty. Some workers of the main territorial administrations believe that the imposition of sanctions, and especially the establishment of the amounts (percent) of fines are the right of managers. They can exercise this right, but also can pardon the offenders. It is impossible to agree with such an opinion. The exacting of fines is not a right, but a duty of territorial organs and timber marketing administrations.

Meanwhile the workers of the Volga-Vyatka and Tatar Main Territorial Administrations and the Armenian SSR State Committee for Material and Technical

Supply very often allow the granting of amnesty to the violators of planning and state discipline.

From the materials of the checks of the State Timber Inspectorate it is possible to draw the conclusion that violations of fund discipline are being allowed with the tacit consent of our territorial organs. Last year high quality lumber, as well as commercial slab, which was intended for delivery to the USSR Ministry of Trade in accordance with market funds, were shipped by enterprises of Sverdlovsk Oblast without funds in accordance with the multiple purchase orders of Central Union of Consumers' Cooperatives under the pretext of "being substandard." True, this illegal operation was not fated to be carried out. The freight was intercepted at railroad stations 1,000 km from the Urals.

It is difficult to believe that with the presence at railside yards of representatives of the timber marketing administration, daily information, communication with the tariff railroad stations, the departments and administration of the railroad the managers of the main territorial administration did not know about such serious violations of state discipline. They did know, but kept quiet.

The Ukrainian SSR State Committee for Material and Technical Supply also systematically gives instructions on the issuing of orders for the delivery of lumber to enterprises, which do not have funds, at the expense of other organizations in accordance with written requests. Meanwhile it is well known that the redistribution of funds between different departments is permissible in only two cases--in case of the transfer in accordance with established procedure of the amounts of construction and installation work or in accordance with economic contracts between enterprises on the performance of work by the contractor for the client.

In the republic many thousands of cubic meters of lumber materials were released without orders, while the violators of planning and state discipline did not undergo strict punishment. Fines were not collected from the Komarovo Wood Processing Combine, which "earned" more than 150,000 rubles in violations. The Nikitovskiy Wood Processing Combine compensated for only a fourth of the allowed damage.

The Ukrainian Timber Products Main Administration is displaying "absent-mindedness" which is hard to explain, by not reporting to the Timber Products Main Administration for distribution the amounts of available resources of commercial lumber which has been accumulated by logging enterprises by means of above-plan production. It is not committing to the economic turnover the so-called substandard lumber and is giving enterprises permission for its independent sale.

The Volga River Region Main Territorial Administration is also allowing similar violations. It is not involving in the planned distribution the above-standard and excessive resources, but is turning them over to unfunded consumers or is delivering them in excess of the funds. Thus, about 2,000 m³ of timber were released to the Main Administration for Construction in the Volga River Regions. At the same time only a fifth of the resources were delivered to funded consumers.

The Latvian SSR State Committee for Material and Technical Supply is systematically disrupting the delivery of panel and veneer sheet to consumers who are located outside the republic. The violators of fund discipline, as a rule, are granted amnesty. Of the amounts of imposed fines only 5 percent has been collected.

Our administration is increasing the influence on ministries and departments, which procure and process lumber materials, and is constantly trying to see to it that valuable resources would be used more efficiently and completely and losses would not be allowed. The USSR State Committee for Material and Technical Supply regularly hears the reports of ministries, enterprises, as well as main territorial administrations on the work on the saving of lumber materials.

However, it must be admitted that we have still put far from all the reserves to use. Of course, the direct work with ministries and enterprises is yielding definite results. Fines and other measures of influence on officials are also promoting the improvement of the matter, by disciplining the offenders who allow wastefulness and mismanagement. But there are still no significant changes for the better.

Why? The answer to this question is far from simple. If all the diverse forms of influence on violators, which are now being used, do not achieve the goal, hence, other, more effective ones must be sought. We have to immediately engage in such an analysis and elaborate the necessary means, without putting them off.

We are devoting much attention to the specification of the standard base of the consumption of lumber materials in accordance with an approved products list, which serves as an effective tool of the saving and efficient use of valuable resources. In 1982 of the 460 revised norms nearly a third were decreased, significant reserves of wood flour, plywood sheets, fiber boards, scaleboard, laminated wood, plywood tube and other products were released and redistributed.

The further decrease of the materials-output ratio of cardboard and paper was accomplished and by means of this more than 1 million m³ of commercial lumber were saved. A significant amount of wood was replaced for the Moldavgidrolizprom Association by sunflower seed husks and corn stalks from local resources. The use of scrap paper in the production of cardboard and paper increased.

These are encouraging facts, but for the sake of objectivity it should be admitted that such replacement adversely influenced the product quality. Last year production was balanced so as to increase the output of paper and cardboard by 12 percent. But here the increase of the use of scrap paper was envisaged in the amount of 5 percent. Consumers received paper and cardboard of higher quality varieties.

In spite of the positive changes in the work of the enterprises of the USSR Ministry of the Timber, Pulp and Paper, and Wood Processing Industry, many problems remain unsolved. The problem of the supply with unbleached sulfate pulp of the factories being built by the USSR State Committee for Material and

Technical Supply for the production of container cardboard made from scrap paper raw materials is arousing serious anxiety. It is possible to ensure their complete utilization only by having built enterprises for the production of pulp and paper--the basis for corrugation. This will help to assimilate quickly the capacities being put into operation and to work smoothly, without interruptions.

Great and responsible tasks, on the successful accomplishment of which the efficient use of lumber materials depends, face our administration. It is necessary, in particular, to increase sharply the commitment to the economic turnover of all the biomass of the timber being logged. The increase of the use of lumpy and soft wood scraps to 70 percent of the amounts of raw materials, which are used for the production of chips which are intended for the obtaining of particle, fiber and fibrous cement boards, consumer goods, hydrolytic and other works, is an extremely important task, and we have to exert much effort in order to accomplish it.

The need for the drawing up in each region of comprehensive complex programs on waste-free production; starting with the felling of timber and ending with its processing, has arisen for the regulation of many questions which are connected with the improvement of the use of timber. The territory organs of the USSR State Committee for Material and Technical Supply should be in charge of this work.

The setting up in the immediate future of the All-Union Industrial Association for the Use of Secondary Timber Raw Materials attached to the USSR Ministry of the Timber, Pulp and Paper, and Wood Processing Industry (Soyuzvtorles) will make it possible to load better the available capacities for the production of advanced lumber materials. But much here will depend on our joint contacts, coordination actions and monitoring of the made decisions.

And finally, there is another aspect of the work, which must not be forgotten. It is important not only to fell timber and to produce the necessary products from it, but also to ensure timely delivery to consumers. Today the uninterrupted supply of the national economy with lumber products, especially under the conditions of the large-scale economic experiments which are being conducted in industry, is acquiring particular importance.

At the December (1983) CPSU Central Committee Plenum it was noted that the plan of this year was formed with difficulty and was balanced with a certain strain. We have to exert the maximum efforts for the successful accomplishment of the posed tasks, the fulfillment and exceeding of the set assignments.

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FORESTRY AND TIMBER

COMPETITION OF TIMBER PROCUREMENT WORKERS DETAILED

Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 20 Mar 84 p 1

[Article by special correspondents Yu. Belanov, N. Krivomazov and A. Mal'tsev: "Six-Months Plan in by 22 April"]

[Text] Initiative of the Nation's Outstanding Lumbermen

Collectives from enterprises and organizations of the all-union timber industry associations, "Sverdlovsklesprom"[Sverdlovsk lumber production association], "Tyumenlesprom"[Tyumen lumber production association] and "Irkutsklesprom"[Irkutsk lumber production association] have been engaged in a competition to commemorate the birth of V. I. Lenin 114 years ago. They have committed themselves to fulfilling at least half of the full-year plan for timber deliveries by 22 April, as well as the four-month objective with regard to finished wood products. They also resolved to achieve a labor productivity increment of one percent above plan, and an additional cost reduction of 0.5 percent in excess of plan.

The collegium of the USSR Minlesbumprom[Ministry of the Timber, Pulp and Paper, and Wood-Processing Industry], and the Central Committee of the timber, paper, and wood-processing workers trade union have approved this initiative. They have called for a concerted effort in the socialist competition for maximal utilization of the conditions of the winter period in order to exceed planned objectives.

Today, our correspondents recount the efforts of the initiators of the competition in living up to their commitments.

Beating the Time-Table

The Tugulymskiy timber industry combine is one of the most outstanding within the association. Today, it is operating under challenging conditions. It must exceed in-house plan requirements for felled timber. While at the same time, part of its equipment is tied up in lumbering operations situated in the northern part of Sverdlovsk Oblast. The fate of commitments undertaken by the association is being decided there. But this has not prevented the Tugulymskiy workers from delivering

to waiting lumberyards in two months time 32 percent of the timber volume projected for the entire year. The equipment which remained here is being put to maximum use.

At the down-level timber depot located near the settlement of Lugovskiy, top-notch driver, A. Malykh, together with his brigade, makes one-month deliveries of approximately 10,000 cubic meters of timber, instead of the 6,700 called for by the plan. This impressive output has been achieved as a result of reductions in equipment down-time due to repairs, and time required for on-loading and off-loading. This determined effort to save time is going on in all of the links.

The Tugulymskiy drivers have rearranged their strategy in order to make better use of the roads in wintertime. At the present time, timber is being hauled out of the most remote and rugged sections. The wood which can be brought out without regard to road conditions is being left until April.

The collective from "Serovles"[Serov lumber production association] is presently doing an outstanding job. More than 800,000 cubic meters of timber has been delivered within the past two months. Collectives from the Pyshminskiy and Talitskiy timber-processing combines, and from the Turinskiy timber-processing facility, as well as several others, are quite successfully living up to their commitments.

But, deliveries of wood to down-level depots are not going as well as hoped for in other places. At the Kishkinskiy and Talitskiy timber-processing combines of "Alapayevskles"[Alapayevsk lumber production association], for example, drivers are not able to make full use of transport facilities, since they have to haul timber right out--so to speak--from under the axe. From the very start here, mistakes have been permitted in the disposition of work forces. Timber-cutting brigades have been short on manpower. They need to be built up in order to fully utilize the people working to make outgoing deliveries.

Brigades Set the Tone

Would "Irkutsklesprom" provide as much wood if its staff were cut in half, and its pool of taiga-modified equipment cut by three quarters? This question seems strange, until you get to know the brigade headed by Nikolay Polonin, which works in the Ust'-Udinskiy timber-processing facility. They harvest 170,000 cubic meters of wood per year. This is more than any other northern timber-processing facility. Eight pieces of timber-harvesting equipment and one reserve tractor is perhaps all that they have available to them. But if all brigades worked like this one, "Irkutsklesprom" could significantly reduce the numbers of its people and machines. Wherein lies the reason for the success of these lumbermen?

"Well, in the first place, they have ideal lumbering conditions right now," begins the chief engineer for "Irkutsklesprom", Ye. Kudryashov, and then stops himself short--"No, that's not it. Nikolay Polonin has put together an ideal collective of dedicated individuals, which works strictly according to schedule. However, Polonin's people aren't the only ones who operate this way. U. F. Khusnutdinov is from Bayanday where lumbering conditions could be considered worse, and his work results are excellent."

As a rule, success follows the larger brigades of lumbermen. It is even more frequent when drivers are also added to the collective. But even brigade labor organization is not a safety net when it is necessary to operate through "virgin forest" or swamps. Within the association, this fact is being taken into account, and the construction of 520 kilometers of new roads is planned for this year.

"Relying entirely on frozen ground, which, as it happened, has saved us from complete taiga impassibility, is today considered highly impractical," explains Kudryashov. "We are therefore tackling the road construction in earnest. But not just that alone. Almost at the same time, two new vehicle repair enterprises for timbering operations have opened for business in Bratsk and Usol'-Sibirsk. Equipment downtime is sharply curtailed, and assurances of reliable logging operations are increasing."

But this is only the beginning of the operation. The directors of the association are faced with a great deal more to do to bring about full utilization of reserves. The Bayronovskiy timber production facility, "Tayshetles"[Tayshet lumber production association], for example, lags behind in all phases of lumber production. They have not arranged for timely transportation of workers to the felling areas. There is no heavy equipment in reserve for the loading operations. This leads to much downtime for timber-hauling vehicles.

The primary objective of the Irkutsk Oblast lumbermen is, indeed, to eliminate major delays from their operations.

The Pace Quickens

In the forefront of the socialist competition among Tyumen lumbermen are the outstanding brigade foremen. One such is the Hero of Socialist Labor and brigade foreman of the Komsomol timber-processing facility, P. Popov.

Pavel Petrovich himself customarily turns the key in the ignition of the "LP-19" [expansion unknown] combination felling and stacking machine. The seizing-cutting mechanism is engaged, and in only a few minutes, a huge pine is lifted over the remaining stump. The operator's foot depresses the pedal, and the machine swings 180 degrees around with the tree trunk and deposits it in the pile behind it.

More than 46,000 cubic meters of wood has been harvested since the start of the year. This is more than twice the amount called for under the plan. Yes, Pavel Popov is running quite a conveyer belt. His brigade has resolved to accomplish 10-year objectives by the end of the five-year period.

There is currently an unprecedented supply of trimmed logs--almost half a million cubic meters--stacked along timber-hauling routes. But, this is still only half the job. In order to transport the wood to consumers, and thereby fulfill their contractual obligations, reliable roads are needed. It is by no means a simple thing to maintain them under the conditions of unseasonable warmth which Siberia experienced this winter.

At night, when temperatures drop well below freezing, workers flood the roads of the Un-Yuganskiy timber-processing facility. Dump-trucks carrying sawdust follow

along behind the tank-trucks. Using graders, they spread the sawdust over the most heavily-travelled part of the road. It is then once more flooded with water, and covered with another such layer of sawdust. This covering works almost up to the middle of April.

"The first tractor-trailer rigs with twin trailers arrived from the Kremenchug Automotive Factory in subunits of the Soviet timber-processing combine," reveals Ye. Lomakin, the deputy chief of "Tyumenlesprom". "The mechanics rigged up a special device for hitching trailers. But, veteran driver P. Ostyakov and his comrades in fact reported that even over the Tyumen routes, it was possible to drive rigs with a load-hauling capacity of up to 60 cubic meters of wood--twice the usual load."

The Tyumen lumbermen are doing outstanding work. And, still, they have not as yet made full use of all their resources. Take, for instance, the tractor-trailers. With the use of these vehicles, they are as of now hauling only about five percent of the wood.

More than 55,000 cubic meters of timber--half again as much as called for by plan requirements--has been hauled in the past two months by the brigade headed by R. Kurmanaliyev from "Tobol'skles"[Tobol'sk timber-processing association], which operates under brigade contract. However, the collective form of labor organization obtained permanent entry only in half of the production brigades of "Tyumenlesprom".

Using existing reserves, the Tyumen lumbermen are stepping up the pace of operations from day to day.

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